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ABSTRACT

This document is a guide for computer enhanced counseling program development. An introductory overview on counselors and computers focuses on the use of microcomputers, the use of computers in test scoring and recordkeeping, and computer-assisted career guidance systems. Other chapters include the following: (1) Becoming a Computer Literate Counselor; (2) Designing a Computer Enhanced Counseling Program; (3) Locating Resources; (4) Putting Your Plan into Action; (5) Preparing for Accountability; (6) Sharing Ideas and Resources; and (7) Generalizations about Counseling and Computers. Appendices include a list of recommended resources, sample exercises in the BASIC computers language, an ERIC computer search, an ERIC reproduction release form, and a CAPS:HITECH electronic network application form. (ABL)

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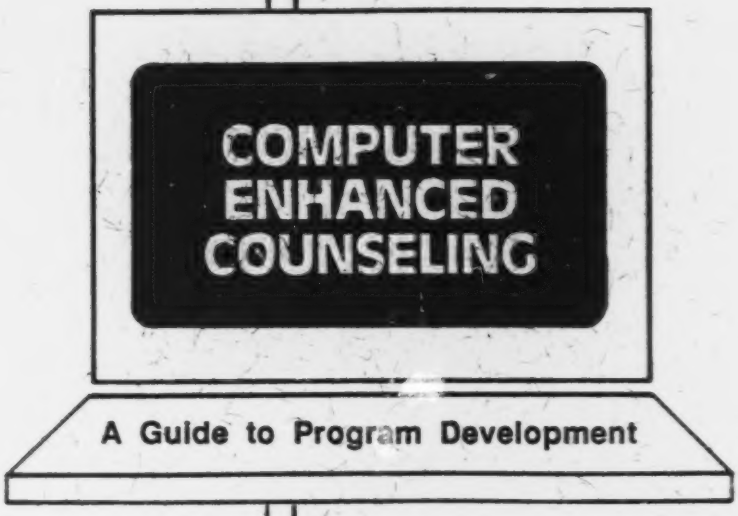

A Guide to Program Development

CG019010

Jeanne Bleuer
Garry R. Walz

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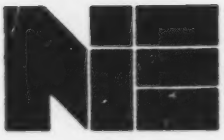

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GUIDE TO DEVELOPING A COMPUTER ENHANCED COUNSELING PROGRAM

by

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CHAPTER I
COUNSELORS AND COMPUTERS: AN OVERVIEW

The numbers of counselors who use and are incorporating computers into their counseling are rapidly increasing. They are discovering both challenges and rewards in developing computer skills and using these skills to enhance their counseling programs. In this guide, we intend to explore how counselors can use computers to both their own and their counselees' advantage.

Our primary focus is on the use of microcomputers. While mainframes and minicomputers make valuable contributions to counseling programs, decisions regarding their acquisition, maintenance, and use are not made by counselors, but by administrators who are charged with meeting needs that go beyond those of the counseling program. We strongly advocate counselor input in these decisions, but recognize that the potential for this input varies from one institution to the next. Our decision to focus on microcomputers, therefore, is based on the fact that counselors themselves can actually do something to work toward a (micro)computer-enhanced counseling program--even if it begins with just the purchase of a very inexpensive microcomputer for one's own personal record keeping or word processing use.

The most long-standing use of computers by counselors has been for test scoring and analysis. Here, however, counselors have generally seen the computer as a remote "black box" that can magically transform a stack of carefully prepared test answer sheets into an even bigger stack of complex statistical output. The commercial enterprises that provide test scoring services have invested a great deal of time and money into "debugging" their computer systems so that consumers can rely on the output they receive. Therefore, since inaccurate or questionable results can almost always be traced to an input error, i.e., an improperly or incompletely marked answer sheet, counselors have developed a sense of trust in the functioning of these computers. In other words, they have understood and accepted the GIGO principle of garbage in, garbage out.

Then came locally computerized record keeping and scheduling. Some counselors have been fortunate enough to work in institutions where these systems have been implemented and refined with minimal problems, but some counselors have become convinced that local computers possess a diabolical delight in "going

down" just at the most critical time--during registration periods or when final reports are due. It's easy for counselors to understand that these systems are tailored to meet the unique needs of individual institutions and don't get the extensive "debugging" that the large-scale commercial test scoring systems have had. But this understanding doesn't make the counselor's job any easier when students and teachers are demanding information that is not available (because the system is "down") or explanations for errors (because there was a "bug" in the program and 100 students were assigned to a 30-student capacity classroom). In these situations, the timeliness and accuracy of the information that the counselor gets from the computer depends more on what others do (the computer operators and programmers) than on what the counselor does. In fact, in some situations (particularly with limited capacity minicomputers), even the counselor's priority of access to the computer is determined by others. Frustration that results from the inability to obtain timely and reliable information can make it hard for counselors to see how computers can be tools for increasing efficiency and improving service.

Fortunately, in most institutions, problems with computer "bugs" and "downtime" are addressed. In time, the functioning of the systems improves and counselors come to appreciate the speed and efficiency of centralized, computerized record keeping and scheduling. But with mainframes and minicomputers, there are still the limiting factors of access and control. That is why many counselors are looking to microcomputers as an even more promising new tool for enhancing counseling services.

This is not to say that microcomputers are trouble-free. They are far from it! Programs have "bugs"; disks are accidentally erased; chips "blow" at the most inconvenient times. These are problems, however, that reasonably knowledgeable computer users can do something about, whether it's debugging the program themselves, taking care to make backup copies of all important files, or borrowing another computer while theirs is being repaired. It is also not to say that minicomputers and mainframes should be abandoned. On the contrary, when several people need access to the same information, and changes to that information need to be coordinated and immediately available (such as in class scheduling and student registration), a large, centralized computer system is essential. However, many counselors are finding it very helpful to use microcomputers to supplement the larger system and to aid them in managing additional information about those students or clients for whom they alone are responsible.

In addition to the use of computers for record keeping and other administrative tasks, there has been a rapid increase in both the number and the sophistication of computer-assisted career guidance systems (CACGs) in the past few years. Here, again, the microcomputer has provided counselors with additional options for delivering career guidance to clients or students. In the past, a counselor had to depend on his/her institution's "buying into" a major career information system that was either quite expensive if it was a commercially developed one, or somewhat limited if it was one of the free or inexpensive state-developed systems. Now, counselors can supplement these systems with a variety of relatively inexpensive microcomputer programs. Though not as comprehensive or as thoroughly developed as several of the leading CACGs, these programs give the counselor the opportunity to design a program that, through the use of a number of different pieces of software, can meet the needs of a particular institution.

The use of microcomputers in counseling can be the most exciting development in counselors' careers. But for some counselors, the use of microcomputers is an enigma. Is it a threat--or a promise? Will it mechanize the counseling process, depriving clients of the important ingredients of warmth, empathy, and genuineness? Or will it enhance and multiply the counselor's effectiveness? We believe that counselors, as professionals, have both the concern not to let the former happen and the creativity and competence to <u>make</u> the latter happen.

CHAPTER II
BECOMING A COMPUTER LITERATE COUNSELOR

A truly computer-literate counselor is one who is knowledgeable in three major areas: (1) how to communicate in "computerese"; (2) how to actually operate a computer; and (3) how computers can be used in counseling.

A "Computerese" Primer

To begin the process of becoming computer literate, a counselor needs to acquire only a general understanding of a few basic terms and concepts. This will allow him/her to: (1) make wise decisions regarding initial equipment purchases; (2) communicate with computer specialists (hacks, vendors, etc.) about new and emerging products; and (3) communicate with other computer-using counselors about counseling-related products and practices that work (or don't work).

We believe that the best way to begin learning "computerese" is not to study a glossary, but to read parts of at least three inexpensive paperbacks that have introductory sections explaining computers. A quick skimming of these sources will reveal key terms such as "RAM," "byte," and "disk drives." Each author will most likely present these terms from a slightly different perspective. Thus, the beginner can more quickly and easily understand the concept than if he/she were to read straight through one source. Moreover, this strategy reduces boredom and reinforces the learning process. In Appendix A, we have identified a few resources that we recommend for this purpose. These or similar books can be found in most bookstores and computer shops.

For most novice computer users, this "starter set" of vocabulary tools will very quickly expand and come in handy when interacting with other computer users, studying user manuals for new software and hardware purchases, reading popular computer magazines, and attending seminars, workshops, and conferences.

In the following pages, we present a brief discussion of a few basic computer terms and concepts. This is not a comprehensive list, nor is it an attempt to provide a complete discussion of each term. Rather, it is an "icebreaker" to acquaint the novice with basic computer terminology.

We have already used the terms mainframe, minicomputer, and microcomputer. Usually, mainframe refers to a very large computer that may fill many

rooms, require many people to operate, and carry out millions of instructions every second. At the other extreme is the microcomputer, a complete computer system small enough to fit on a desk and used by one person at a time. In between these two is the minicomputer which is often used for centralized record keeping in individual schools, school districts, and medium-sized businesses and organizations.

To access a mainframe or minicomputer, one needs a terminal. Some terminals have visual display screens, often referred to as CRT's (cathode ray tube). Although there is such a thing as a "smart" terminal, most terminals are "dumb"--i.e., they cannot process information themselves, but merely transfer it to and from a mainframe or minicomputer. This factor limits their usefulness. With appropriate hardware and software, however, microcomputers can also serve as terminals. This makes them ideal pieces of equipment for counselors who want to be able to run their own programs, but also need a way to access a larger system for centralized information.

Figure 1 is a diagram of the basic hardware components of a microcomputer system. Hardware components are those parts of the computer you can see and touch. Computer systems are composed of input, processing, and output devices. A keyboard is an input device. A printer and video display (or monitor) are output devices. A disk drive functions both as an input and an output device in that the computer can read information from a disk (input) and write information to a disk (output). The central processing unit (or CPU) is the "brain" of the computer. This brain, however, can only process information that is in binary form, i.e., 1/0, on/off, or magnetized/not magnetized.

Therefore, to communicate with the CPU from the keyboard in a language we can understand, there must be a code to translate letters and characters to binary form. The American Standard Code for Information Interchange (ASCII) is the system that has been developed for this purpose.

The smallest piece of discrete information that the computer can process is called a bit. It is a "dot" on a tape, disk, or other memory surface that is either magnetized or not magnetized. In the ASCII system, various combinations of seven bit sequences form the 26 letters of the alphabet, the numbers 0-9, and other characters such as #!?/, etc. A set of eight bits is called a byte. Figure 2 illustrates the concepts of bit and byte.

In addition to processing the bits of information sent to it, the CPU can also temporarily store that information on a silicon chip. The amount of information

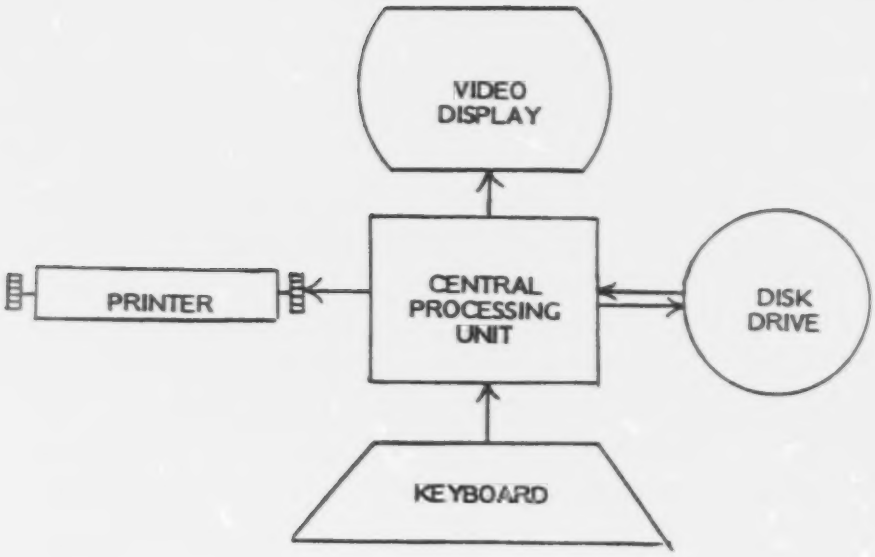


Figure 1. Basic Hardware Components of a Microcomputer System.

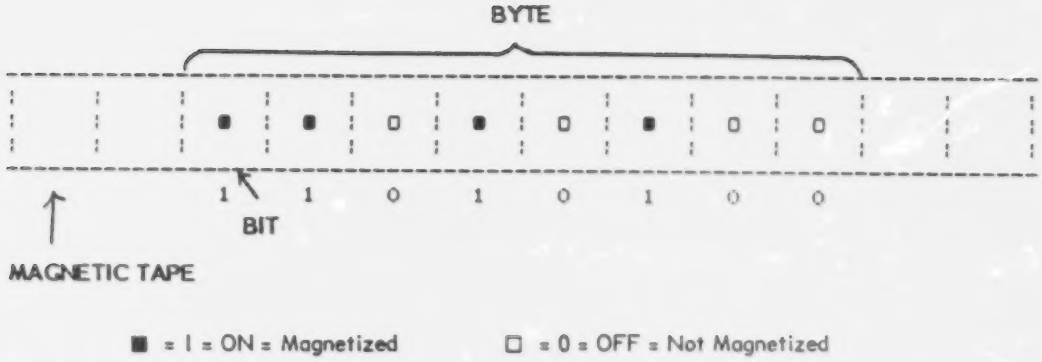


Figure 2. Binary Processing.

that can be stored is referred to as the size of the chip's memory--technically called RAM, or random access memory. RAM size is expressed in terms of kilobytes, or K, one K being equivalent to 1,024 bytes. For example, some very small home computers have only 8K or 16K RAM. The Apple II+ has 48K, Apple IIe has 64K, Apple IIc has 128K, and the "Fat Mac" has 512K. Even 16K (or 16,384 kbytes) seems like a lot of space; but by the time every letter, character, and space is converted to binary form, 16K would easily be filled up by four pages of a typical paperback pocketbook (Editors of Consumer Guide, 1982, p. 33).

RAM is sometimes referred to as temporary or "volatile" memory because when the power to the computer is turned off, all the information that was stored in RAM is erased. That's why it's important to periodically save information that will be needed in the future by having the computer write it into a file. A file is a collection of bytes of information stored magnetically on a disk.

Microcomputers also have ROM, or read only memory. The amount of ROM that a machine has can vary from just enough to tell itself how to start up, to turning on a built-in programming language or applications program. Starting up is called booting because the computer "pulls itself up by its own bootstraps." ROM is not erased when the computer is turned off and is, therefore, referred to as "non-volatile" memory.

Although tape drives are still used with some small microcomputers, the disk drive is far more popular, and floppy disks are still more common than hard disks. Figure 3 shows what a floppy disk looks like from the outside (i.e., in its jacket), and Figure 4 shows how information is stored on a disk. Before a disk can store information, it must be initialized, or formatted by the computer with which it is to be used. This involves dividing the magnetic surface into sectors and tracks (concentric circles) according to the requirements of the disk operating system (DOS). Different computer manufacturers use different types of disk operating systems. That's why it is necessary to initialize new blank disks on the system used and to buy software that is designed for that system.

The hardware accessories that are used to expand the capabilities of the microcomputer are called peripherals. Peripherals offer a great deal of variation in terms of the total microcomputer system that one chooses to assemble. For example, monitors can be monochrome (green, amber, etc.) or color. Printers can be dot matrix or letter quality or even laser. Laser printers use a beam of light to "scorch" impressions on the paper. Although they are extremely fast and versatile,

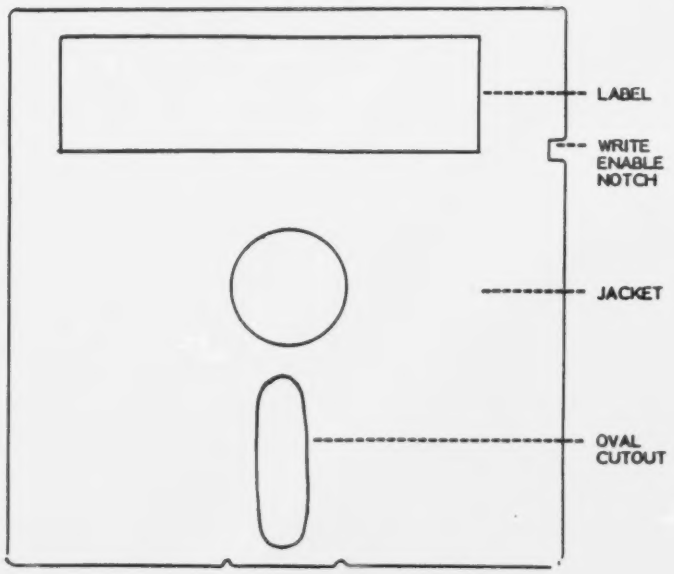
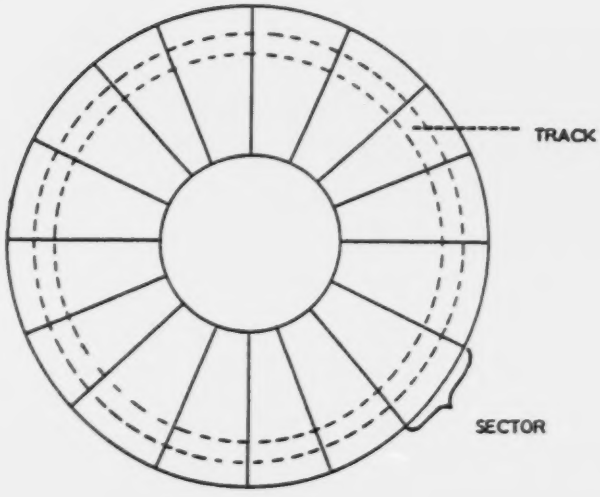


Figure 3. Floppy Disk (in Jacket).



TRACK + SECTOR: ADDRESS

APPLE DOS:
16 SECTORS
35 TRACKS
560 ADDRESSES
256 BYTES/ADDRESS
143,360 CHARACTERS/DISK
(80 ss typed pages)

Figure 4. Initialized Floppy Disk.

laser printers are also very expensive. Letter quality printers use "daisy wheels" or "thimbles" in much the same way as a typewriter works. Dot matrix printers create letters and characters from matrices of dots as illustrated in Figure 5. They provide graphics capabilities and are faster and less expensive than letter quality printers. They do, however, tend to print characters that have a "computer" look to them.

In order for a microcomputer to be used as a terminal, it must be equipped with a modem. A modem translates binary code into data that can be transferred via telephone lines. Figure 6 illustrates the two major types of modems, acoustic and direct connect. Increasingly, however, computer manufacturers are providing built-in modems, particularly for the small portables. In addition to a modem, a microcomputer must have communications software in order to "connect" with other computers. Most communications software packages provide the capability to upload, i.e., to transfer files from a microcomputer disk to another computer system, and to download, i.e., to transfer information from another computer system to a microcomputer disk.

Word processing, database management, and electronic spreadsheets are three types of general purpose software which are available for virtually every type of microcomputer. Depending on the specific programs selected, they can be relatively easy to master and can be used to perform a wide range of functions. For example, word processing programs assist in creating manuscripts, personalizing form letters, and preparing reports. Database management programs organize client record keeping systems, resource files, and mailing lists. And electronic spreadsheets make preparing budgets, computing grade point averages, and projecting costs much easier. This is by no means an exhaustive list of the various applications of general purpose software, but, in itself, should suggest that such software is a highly cost effective investment.

Special purpose software serves only one function (e.g., preparing tax forms, practicing study skills, retrieving career information), but requires less computer expertise to use. Software programs are written in computer languages, such as BASIC, PASCAL, LOGO, etc. BASIC, Beginner's All-Purpose Symbolic Instruction Code, is the most popular language for microcomputers and is fairly easy to learn. A fundamental knowledge of BASIC commands provides counselors with the tools to create programs for their own special needs. Furthermore, by understanding the concept of programming, counselors can contribute ideas for the development of new software.

Figure 5. Dot Matrix Characters.

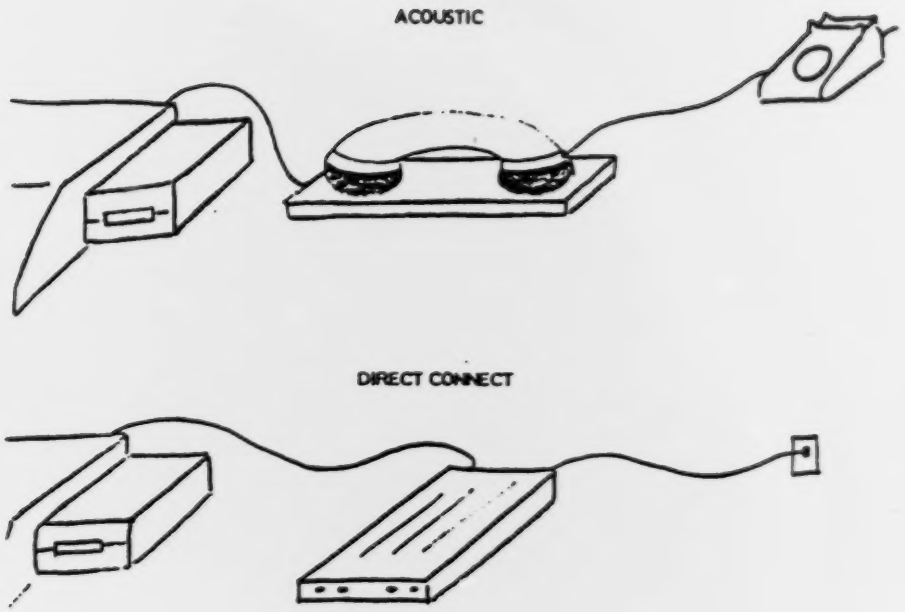


Figure 6. Modems.

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Learning to Operate a Microcomputer

Speaking a little "computerese" may make a counselor sound computer literate, but real computer literacy requires hands-on experience. One way to obtain this experience is through formal instruction, e.g., professional development workshops, classes offered by computer vendors, or courses offered by adult education programs and colleges. An alternative, and perhaps less threatening, strategy is to undertake a self-directed course of study. In this section, we offer some suggestions for designing one's own study plan.

The first step, obviously, is to get access to a microcomputer. Although this seems only logical, access is much more important than a novice computer user might expect. This is because most beginning microcomputer users find it absolutely essential to work at their skill development on a regular basis and to reinforce each new skill and concept with repeated practice. Many counselors have reported that this is particularly true for them because the "technical" expertise required to use a microcomputer is quite different from the types of skills that counselors typically acquire through their training and experience.

Ideally, microcomputer access is obtained by purchasing one's own microcomputer, for either home or office use. If this is not feasible, the possibility of renting one for a month should be investigated. Borrowing a friend's microcomputer is also a viable alternative, but only if the friend is able and willing to let the learner have access to the microcomputer frequently and for periods of at least an hour at a time.

There is some dissension among educators about whether learning should take place on the same type of machine that the learner will eventually use. Since there are advantages and disadvantages to both sides, we feel this is best left to individual preference. If the person wishes to be flexible and skilled in using a variety of microcomputers, it probably doesn't matter what kind of machine is used for the initial learning. But if he/she is easily discouraged and frustrated by tasks of this nature, it would probably be best to stick with the type of machine that will eventually be used at work. Most computer users find that keyboard habits develop quickly, and for some people it can be quite frustrating to have to re-learn where certain keys are, not to mention such idiosyncracies as turning the machine and its peripherals on and off, or saving and retrieving information.

Once microcomputer access has been arranged, the learner needs to find out: (1) how to turn it on; (2) how to load a program; and (3) what not to do. This

information can be obtained from the user's manual that comes with the machine, but it's quicker just to ask the computer vendor or a computer literate friend. Knowing from the very beginning what not to do is important because it helps the novice get over the fear of breaking the machine or destroying important programs. This, in turn, helps reduce some of the notorious stress and "computer anxiety" that some people feel when confronted with the task of using a computer.

Another component of computer anxiety is the fear of "looking stupid." Most instructors involved in teaching adults to use computers are well aware of this very common feeling and try to structure a non-threatening learning situation. One of the major advantages of self-directed study, however, is that once one knows how to turn on the computer, how to load a program, and what not to do, one can structure time alone with the computer until a certain level of familiarity and comfort is reached.

We believe that learning to use a microcomputer should be fun. Therefore, we suggest that the learner approach the task with an exploratory, investigative attitude, structuring a series of "play" sessions which involve some progressively more complex computer-use skills. The following are some examples of how that might be done.

Session 1: Computer Games

The main goal of this session is to get familiar with both the keyboard and the computer's interactive nature. It doesn't really matter which specific games are used as long as they require a variety of response types. For example, some of them can be video-type games where one uses a joystick or certain keys to move an object to a desired location on the screen, but others should represent verbal interactions. An excellent example of a program that combines both types of responses is the Oregon Trail simulation, which is part of the social studies software package produced by MECC. Most counselors also enjoy a "therapy session" with Eliza, a software program produced by Artificial Intelligence Research Group. (Several counselors have reported that it takes just one session with Eliza to banish all their fears of being replaced by a computer!) It is important that any games or simulations selected for this session be very user friendly--i.e., that the instructions be "online," clear, complete, and do not insult the user. Some programs, particularly advanced role playing simulations such as Wizardry, require a great deal of "offline" reading before the game can be played. While

these can ultimately provide hours of challenge and fascination for players, they would probably not be appropriate for this first session. At this time, the object is to get actively involved in interacting with the computer as soon as possible.

Session 2: Software Tutorial About Computers

The goal of this session is to continue developing familiarity with the keyboard and the interactive nature of the computer, but to add a substantive dimension to the content of the software. An example of this type of software is the set of "Apple Presents" disks that come with the Apple IIc or the "Know Your Apple" program produced by Muse. If this type of software is not available for the machine being used, it may be worth checking into the possibility of running through it on an Apple. The content of these programs is quite informative, and most of the concepts apply to microcomputers in general, not just Apples.

Session 3: Computer-Assisted Counseling

The goal of this session is to become familiar with software that has professional relevance to counseling, but also to become aware of how the computer is inputting, processing, and outputting the information with which it is dealing. Session 2 should have helped the learner develop an awareness of how one can tell what the computer is doing at a given time (e.g., reading information from a disk, storing information). By combining this understanding with professional knowledge about such things as occupational information, decision making strategies, etc., the computer-using counselor can make some judgments about the appropriateness of the way in which a particular piece of counseling software operates. Since each program may take quite a while to work through, this type of session should be repeated several times so that the counselor has an opportunity to review a wide variety of counseling-specific software. Examples of appropriate types of programs for this session include: study skills, values clarification, career/educational information, test preparation skills, and personality/interest inventories. See Appendix A for recommended software directories that deal specifically with counseling resources.

Session 4: Software Tutorial on How to Use a Word Processing System

The goal of this session is to move from a responsive mode of computer use to a more creative mode in which the counselor uses the computer as a tool to help

him/her organize and generate such things as letters, reports, and manuscripts. The Bank Street Writer Tutorial which comes on the back side of the Bank Street Writer Program disk is an example of this type of tutorial. It provides a good introduction to the general concepts of word processing and is a useful exercise even if one intends to use another word processing system later on. If this is not available and the word processing system to be used does not have a software tutorial, then the next best option is to work through the tutorial provided in the user's manual. Most manuals do have an introductory section that leads the new user through the fundamentals of how the program works. Word processing is the most common applications program used by microcomputer users, and most counselors find it invaluable once they master a particular system. A word of caution, however--there seems to be evidence that people get very attached to their word processing systems and "cling" to them even though better and more sophisticated systems become available. Therefore, before spending a great deal of time learning how to use a particular program, one should carefully review the available options and select a program that will be sophisticated enough to handle anticipated future uses. For example, if one intends to prepare manuscripts for publication, the capacity to footnote and carry running heads would be important. If personalizing letters is an important function, then capacity for selective file merging should be considered. Popular computer magazines frequently have good articles on what to look for in a word processing package and usually contain comparison charts of the major programs currently available.

Session 5: A Simple File Management System

The goal of this session is to provide the learner with a tool that, for counselors, has even wider application than word processing--i.e., a system for organizing and storing information in such a fashion that it can quickly be retrieved. Like word processing programs, file management (or database management) programs are available for every type of microcomputer and vary considerably in their level of sophistication. With these programs, however, there doesn't seem to be quite the "attachment" problem that is associated with word processing programs; i.e., users do not seem to have difficulty "graduating" to programs that have higher levels of sophistication. In fact, users often seem to "outgrow" simple programs and become frustrated with their limitations. Therefore, it would be appropriate to begin with a simple program to master the basic

concepts, then move to a more sophisticated program at a later time. One of the more popular file management programs for beginning users is PFS:FILE. It is available for both Apples and IBM and can be learned very quickly by following the tutorial in the user manual. However, instead of using the "business" type of application presented in the tutorial, counselors find it much more relevant to design a student or client record form. In workshops designed to teach counselors how to use computers, we have found that the value of computerized file management does not really become obvious to counselors until they begin to understand the concept of random retrieval. In other words, entering information about a student or client into a computer file seems just as time-consuming and tedious as entering it into a cumulative folder. But being able to quickly retrieve and summarize various pieces of that information (e.g., all eleventh grade girls who have received all A's in their math courses and are thus eligible for a special scholarship that has just become available) is quite impressive!

Session 6: BASIC Exercises

The goal of this session is not to produce a computer programmer, but to help the learner become familiar with a few BASIC commands and program statements so that he/she can develop an understanding of the power that the microcomputer has and how users can control that power through programming. While most counselors will not choose to spend a great deal of time writing computer programs, they may wish to develop short, special purpose programs that meet specific needs. There are many good introductory texts available on BASIC, but since different microcomputers use different versions of BASIC, it is important to select a resource accordingly. Some of the books that are written for children are particularly good for introducing basic computer operation and programming concepts. Appendix A includes a few recommended resources and Appendix B contains three sample exercises from "Basic BASIC for Counselors: A Self-Instructional Exercise on Programming an Apple" (Bleuer & Walz, 1985).

How Computers Can Be Used in Counseling

Counselors have found that they can enhance their services and programs through computer-assisted counseling and/or computer-managed counseling. In computer-assisted counseling, students or clients interact directly with the computer to obtain information or to learn a new skill. In computer-managed

counseling, counselors use computers to maintain and analyze student or client data and/or to document and analyze the counseling process.

Computer-Assisted Counseling. Three significant advantages of computer-assisted counseling are uniformity, availability, and the capacity to store and retrieve large amounts of information. While it can be argued that both counselors and computers can, on occasion, make inaccurate assumptions about particular clients, computers generally treat all clients "objectively" and are not biased by gender or personal, social, or ethnic characteristics. This uniform objectivity can be very important, whether potential bias is real on the part of the counselor or simply perceived as such by the client.

Where the client-to-counselor ratio is very high, as it is in most schools, computer-assisted counseling can multiply the counselor's efforts by being available when the counselor isn't. As long as clients are adequately prepared to use the computer and receive follow-up help in interpreting results, more clients can receive more information that is sometimes more accurate than what the counselor can provide in a one-to-one counseling situation.

The tremendous capacity to store and retrieve information is probably the computer's most useful characteristic. If we consider also the computer's speed and ability to select, sort and combine information, there is no doubt that the computer can accomplish tasks that are humanly impossible.

Among the promising applications of computer-assisted counseling are: selection and retrieval of career information; selection and retrieval of educational information; career guidance; educational guidance; aptitude and achievement testing; interest assessment; test practice/preparation (e.g., SAT); and skill building (e.g., problem solving, decision making).

Computer-Managed Counseling. There is a small, but growing body of research that provides evidence that computers can, in fact, have a significant impact on counseling effectivenss by increasing both the speed and the accuracy of information retrieval and report production. Therefore, even if counselors are not able to provide computers for direct client use, they can use computers for clerical and administrative tasks, thus reducing their load of paperwork. This can free them to spend more time with clients. Some counselors fear that the tedious paper work will simply be replaced by tedious computer work. However, counselors are finding that they can acquire basic microcomputer skills quite easily and quickly through a variety of training methods--self-instruction, workshop attendance, and formal

coursework. More important, however, they are finding that once these skills are acquired, the control one feels in using a computer can be quite rewarding. This mastery of the computer allows them either to enter and retrieve their own data or to train clerical staff to perform the desired tasks.

Another important advantage of computer-managed counseling is the extensive amount of documentation which the computer makes possible. With computerized record keeping systems, counselors can now present "hard" data to meet the increasing demands for accountability. Examples of programs that are specifically designed for this purpose are Counselor Log (Jim Lee), Counseling Goals System (Opportunities for Learning), YSA: Your Staff Assistant (Psychware Consultants), Accumulator II (Southern Micro Systems), Student Data Management System (EMC Publishing), and Counselor Contact File and Management Series (Conover Company).

Among the promising applications of computer-supported counseling are: client/student record keeping; counseling activity logs; attendance records; scheduling; grading; transcript production; resource files; and word processing (e.g., report writing, personalized letters).

Summary

Appendix C contains the output from a computer search of the ERIC database in which a set of counseling and guidance descriptors were combined with a set of computer-related descriptors. The resulting articles and documents provide a good representation of the issues and trends in the use of computers in counseling. However, we believe that they only begin to scratch the surface in terms of what counselors are actually doing to maximize the computer's potential usefulness. This belief is based on: (1) our conversations with computer workshop and conference participants who are involved in innovative and imaginative new uses of computers; (2) our observation that counselors, by inclination or the demands of other priorities, tend to be doers rather than writers; and (3) the fact that there is always a delay between the time a program or practice is developed and the time a description or report of it is prepared for publication. In Section VII of this guide, we suggest some ways in which we might move from a regional word-of-mouth sharing of ideas and resources to a national, multi-modal strategy. This wider dissemination and interaction has important implications for growth and development of the counseling field, particulary if the profession is to meet the growing demands for excellence and accountability.

CHAPTER III

DESIGNING A COMPUTER ENHANCED COUNSELING PROGRAM

Introduction

Attitudes are as important as skills in designing and developing an effective computer enhanced counseling program. Below is a short inventory that will help you to get at your feelings about the use of computers in counseling. Use your "gut" level feelings in responding to the statements.

Computer Enhanced Counseling Program Inventory

Listed below are a number of statements about the use of computers to enhance counseling. Indicate whether each item is mostly "true" or mostly "false" by using the letter T or F.

____ 1. Experience has demonstrated that the availability of computer assisted counseling is likely to diminish the use of counselors.

____ 2. The first priority in the use of funds for using computers in counseling should be to acquire the most advanced hardware (computers) as possible.

____ 3. Computers are likely to do as good a job or better in assisting persons to acquire relevant educational and vocational information for career decision making as counselors can do.

____ 4. A truly effective computer enhanced counseling program requires the availability and use of mainframe computers.

____ 5. A high degree of computer literacy, e.g., programming skills, is essential for effective use of computers by counselors.

____ 6. Typically, counselors themselves rather than clients, students and/or administrators are the greatest obstacle to the adoption and use of computers in counseling.

____ 7. The use of computers in counseling is limited mainly by the imagination and creativity of the user or counselor.

____ 8. The decision about what software to purchase and use should precede the decision about what computers should be obtained.

____ 9. Addressing a number of objectives--e.g., managing data, retrieving career information, building client decision making skills--can be the basis of an effective computer enhanced counseling program.

____10. Adopting a generic plan for the use of computers in counseling is preferable to devoting time and resources to designing a program that meets local or special needs and interests.

Reviewing Your Responses

Do you find this Inventory difficult to respond to? Most people do. Decisions about the use of computers in counseling are typically not black or white; i.e., they don't fit easily into "true" or "false" categories. To us, the number of right or wrong responses is not really important. Our hope is that the Inventory stimulates your thinking about some key topics in the use of computers in counseling. The answers are provided below--as you review them, focus on the issues behind each response even if you disagree with it.

1. False. Experience suggests that the use of counselors actually increases as users are prompted to ask more questions and undertake more planning. The major difference is that after using computer-assisted guidance, clients use counselors differently and better. Their questions deal with more meaningful areas and with less purely factual information.

2. False. The ads imply your problems are over if you get the latest and best (most expensive anyway) hardware. But in practice, too much hardware can be as great a burden as too little and can tie you down to expensive investments you can't afford to abandon, even when newer, less expensive equipment becomes available. Buy only what you need, not everything that is on the market.

3. True. Because of superior memory capabilities, the ease of updating information, and the ability to tap national databanks, the dissemination of relevant, accurate, and comprehensive information can be one of a computer's major assets.

4. False. Programs have been developed that make very good use of mainframes for record keeping, file management, and all-around student record keeping. But there are PC alternatives for the counselor that have many desirable features, such as availability and flexibility.

5. False. A counselor can use a computer quite effectively without knowing programming. With the rapid advances and changes in computer programming, counselors would do better to concentrate on developing innovative uses of the computer, rather than on learning how to program it.

6. True. Numerous studies have demonstrated that the large numbers of users of computer-assisted counseling like it and want more. Frequently, the counselors are the ones who are resistant because they don't understand it and/or are afraid of it.

7. True. That applies to almost any field where computers are being used. We are continually impressed with the creativity and imagination that counselors use to make new and better use of computers in counseling.

8. True. Absolutely. Some recently advertised computers look very attractive, but could be a disaster for counselors because of the paucity of software. A computer without software is like a gun without ammunition--potentially powerful but practically useless. Decide the software you need, then locate the computer that will run it for you effectively and inexpensively.

9. True. Computers are frequently under-utilized. Reviewing the problem areas of your program, or reflecting on what computers can help you do better, can optimize your computer use. Seldom do we make as good use of computers in counseling as we could. Without expending a great deal of effort, we can increase significantly both the number and the effectiveness of our computer applications. Try it!

10. False. Generic plans are intended for everyone but are seldom particularly useful for anyone. Designing a program that makes effective use of the best software and relevant counseling activities is a way to make sure that your priorities and needs are met. Don't settle for less than a counseling/computer design that does what you need and want it to do.

We hope that going over these answers has stimulated your thinking. In the following discussion we will expand on some of these issues to suggest how you can design a local program that meets your priorities and needs and makes effective use of computers.

Good Computer Enhanced Counseling Programs Don't Just Happen--They Are Painstakingly Made

One of the most difficult consulting tasks we've faced is responding to a local director or administrator who has taken us to a room, proudly shown us an extensive array of computer hardware, and then asked, "We've really got a good program here, haven't we?" This computer "edifice complex" equates the amount of hardware with the quality and effectiveness of a computer enhanced counseling program. The thought behind such thinking is typically that the greater the quantity and the more powerful the computers and supporting hardware, the more impactful and effective the program. After all, that is what the advertisements have dinned into everyone for many years! How could you possibly not have a good

program if you have the best of what IBM, Apple, Commodore or Radio Shack has to offer?

Even persons who have creative thoughts or imaginative goals may never implement an effective computer enhanced counseling program. It is easy to become fixated on the goals without ever acquiring the means to achieve them, however desirable they may be. A goal without a plan is really just a dream. Dreaming is important, but left at that it may well be more frustrating than fulfilling. What is needed is a systematic approach that utilizes creative and imaginative thinking about what the new technology can do and proceeds in a step-by-step fashion to ensure that significant needs and preferences are responded to.

In Figure 1, a "Model for Creating the Optimal Computer Enhanced Counseling Program" is presented. This five-step model is intended to assist any program staff to undertake the thinking and planning which will enable them to develop the program which is both creative in thought and systematic in implementation.

Step 1: Generating Preferred Futures. There are two basic approaches to building the computer enhanced counseling program. The first approach is to identify what problems exist in the present counseling program and then to obtain an appropriate solution for each problem. An alternative approach is to begin by generating preferred futures—that is, the characteristics of the counseling program that represent what those involved would like it to be. Once clear images of the preferred future are formed, the second major task is designing and implementing the steps necessary to achieve that future. While both approaches can produce useful results, and both are far better than proceeding in an unplanned, haphazard fashion or responding purely to the urgency of a particular counseling crisis, we greatly prefer the generating-preferred-futures approach. Its great advantage is that it appropriately combines the best vision and desired outcomes with systematic and comprehensive planning to ensure that the most preferred program future is the focus of the programmatic thrust.

Figure 2 identifies a number of the forces that can be tapped to assist in creating the preferred futures for a given computer enhanced counseling program. Each of these forces is acknowledged as having impact on the preferred-futures decision and is directly and openly discussed.

Past preferences are known to have an important influence on choices that are made. It is important to review these past preferences in the light of new

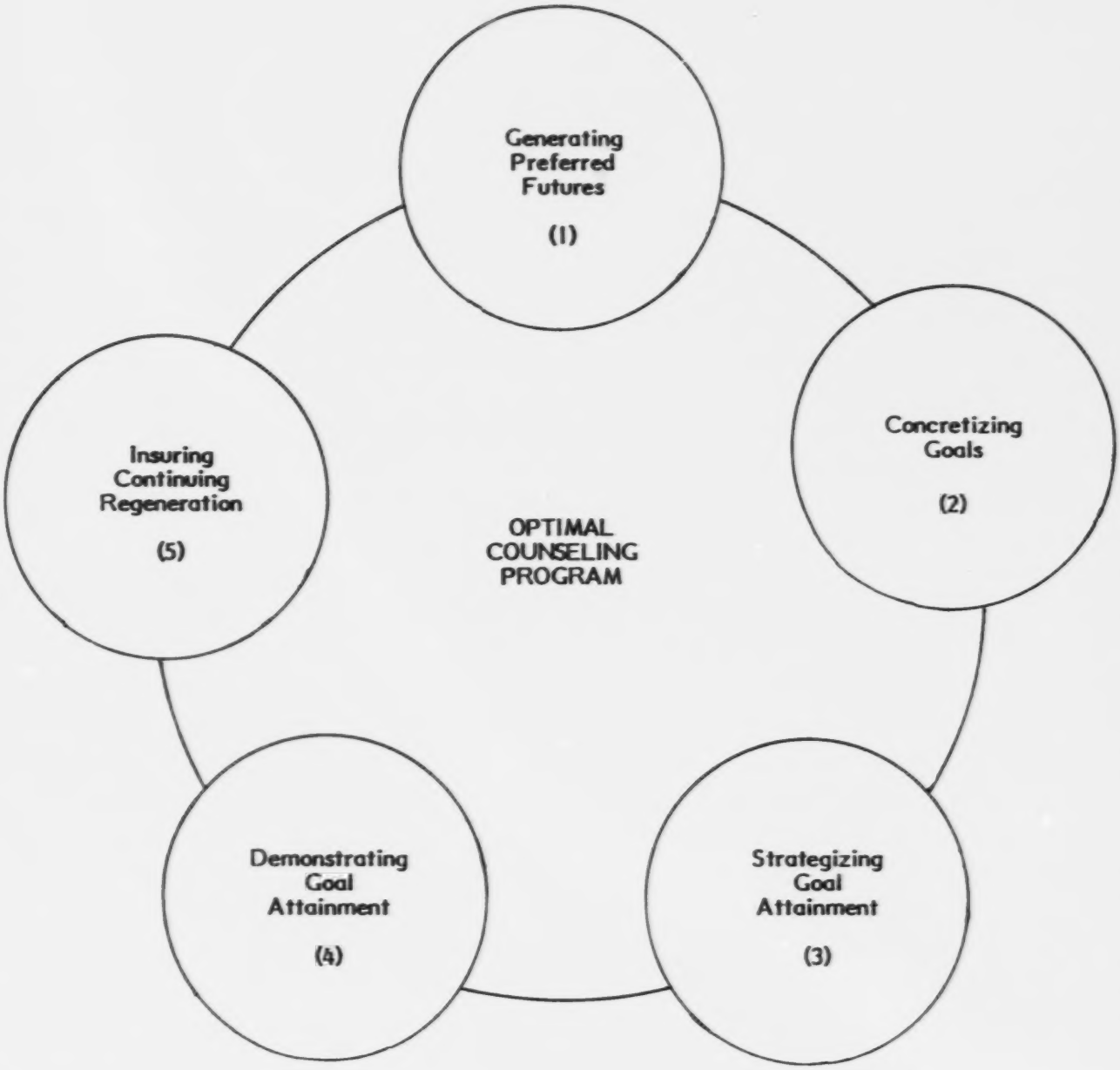

Figure 1. Model for Creating the Optimal Computer Enhanced Counseling Program

Figure 2. Forces for Creating Preferred Counseling Futures

conditions and developments to see if they continue to be important in the future that the program is working towards. Unrealized goals have strong stimulus value and can be used as a rallying point for gaining support throughout the system for the preferred counseling program future. As unrealized goals, they frequently call for new perspectives and methods if they are to be achieved and hence can be built into the mosaic of preferred counseling futures.

Current pain or unresolved problems are either uppermost or deeply repressed in the minds of many persons associated with counseling programs. Scheduling problems, student suicides that were ineptly handled, or the inability of counselors to respond to the needs of large numbers of students for career assistance can be bleeding sores that, left unattended, may undermine any counseling program. Though they are frequently not considered, consumer needs play an important role in determining how people will respond to the program--e.g., is it helping my son or daughter to find a job or get into the college or school of their choice.

Knowledge generalizations, or what is known about different populations and the effectiveness of different counseling approaches, affect our belief systems as well as the probabilities that a given approach or method will or will not work. These belief systems are frequently implicit rather than explicit in generating futures, and therefore provide unknown agendas and unexplained responses on the part of those working to develop a consensus on a preferred counseling future. The more open they can be made, the greater the likelihood that they can be used in a proactive, helpful and supportive way rather than a constraining and inhibiting fashion.

Future predictions, typically demographics, as well as changes in values, interests, and needs of constituencies that are to be served, are important if the counseling program's future is to be one that is perceived by the stakeholders as relevant and desirable. A variety of megatrends and futuristic information can be helpful in determining what the near future will be for different populations and society in general so these can be factored into the futuring/planning process.

Typically, one of the greatest controlling forces in the functioning of any program is the system policies, whether overt or covert, which deal with such things as who wields authority or makes decisions, how communications are handled, what the budget is, or how the budget is built. These are examples of some of the policies which exercise great influence over future developments and need to be identified and adequately responded to if a future image is to become an operating reality.

Step 2: Concretizing Goals. In this step the major focus is on converting the preferred futures into concrete goal statements. Wherever possible, it is desirable that these goals be stated in concrete, specific terms that make them both observable and measurable. It is also helpful to apply timelines to each of the goals. While much has been written about the desirability of developing performance objectives and the need for care in writing such objectives, we have observed that organizations that devote too much time to managing by objectives become so procedurally oriented that they have little energy for later, more important steps in achieving their goals. We therefore recommend working for consensual agreement on goals which adequately reflect the preferred counseling futures, and which are stated concretely and succinctly enough that most people who read them will know what the program wishes to achieve and can adequately determine whether it has been successful.

Step 3: Strategizing Goal Attainment. Crucial to the achievement of preferred counseling futures is harnessing the full resources of the program and the system in which the program is located to achieve the goals which have been set forth. Involving all of the stakeholders is particularly crucial in infusing their ideas and suggestions for how different persons may contribute to the goal attainment. An ideal strategy is one where different stakeholder groups are able to relate the ways that they can contribute individually and collectively to achieving each of the highly prioritized goals.

Step 4: Demonstrating Goal Attainment. It is easy to know when a runner is a winner because the tape breaks at the finish line. Program staffs, however, are frequently unsure whether they have attained what they set out to because they have never clearly identified what they wanted to achieve or been able to demonstrate or communicate what they have achieved. Therefore, it is very important in the futures plan to provide clear opportunities for the program participants to demonstrate in observable and communicable fashion that a given goal has been met--e.g., to provide assistance to all twelfth graders to establish a life-career plan--and to do so in ways that are readily understood by a broad audience or community that is served by the program. (For further discussion, refer to Chapter VI, "Preparing for Accountability.")

Step 5: Ensuring Continuing Regeneration. Preferred futures have a way of becoming yesterday's history. If left by themselves, they wither and atrophy like any dynamic growing entity which is denied attention and sustenance. Crucial to

the futures plan is the means by which the preferred futures are reviewed and regenerated through new ideas, reinforcement for successes, and reestablished commitments to the original priorities. Typically, this is one of the most frequently ignored steps. That is why so many promising counseling innovations are started, but so few persist for any length of time.

Choosing Targets for Computer Enhancement

In the development of a preferred-counseling-futures plan, as well as in specific implementation efforts, there are a number of areas that offer possibilities for the effective use of computers. The possibilities may be broadly grouped into five areas which are neither mutually exclusive nor exhaustive of the ways in which the total counseling process may be enhanced by the appropriate use of computers.

Database Building and Record Keeping. Long a scourge for counselors has been the keeping of accurate and viable records which are quickly retrievable for use with clients and in consultations with parents and others. The usual procedures fail due to the sheer logistics of maintaining the records and being able to retrieve information when desired. Likewise, there are seldom any serious efforts to note trends and/or outcomes as a result of particular interventions or activities. The advent of personal computers offers many practical opportunities for counselors to keep track of their clients' needs, interests, and progress, and to be able to use data directly in dealing with those clients. Additionally, counselors can quickly identify those who are failing generally or in specific areas, provide reinforcement for students who have shown improvement, and contribute to building databases which describe results or outcomes of current programs and practices.

Computerized Testing. It is an old adage that tests are frequently given but seldom used. Massive public school testing programs that require hours of the student's time are frequently used to make decisions about students, but they are seldom used for and <u>with</u> students in making decisions and plans. With computerized testing it is possible to use some of the more psychologically sophisticated instruments, such as the Strong-Campbell Interest Inventory and the Myers-Briggs Personality Inventory, to obtain rapid scoring as well as provide a sophisticated analysis of the results. This approach to testing both educates the client about the meaning of their test performance and provides a better basis for student and counselor discussions on the use of the information for decision making and planning.

Information Acquisition. Good plans require accurate, timely and comprehensive data about both educational and career opportunities. This information is dynamic by its very nature and quickly goes out of date. The use of computers with software programs that are regularly updated enables clients to retrieve information which is far more usable than that typically provided through print media.

Skill Building. The increasing emphasis in counseling on performance outcomes versus attitude change is leading to a renewed emphasis on the importance of building specific client skills, such as test taking, learning effectiveness, and time management. These are all skills that, because they involve a high degree of specificity, can be well presented by computer software and lend themselves to the repetition and reinforcement that is associated with high learning rates. The computer contribution to this area is particularly large and appropriate, as few counselors have either the time or the inclination to work with counselees to develop skills which, while of life-long importance, frequently have a low priority in the counseling experience.

Interactive Planning and Decision Making. Certainly one of the most highly prioritized and desired outcomes for counseling is that the client increasingly assume responsibility for and demonstrate skill in career and life planning. To do this requires that the client bring together information about self, relate it to information about choices and opportunities, and make appropriate and thoughtful decisions and plans. Currently available computer programs that deal with career and life planning, such as DISCOVER and SIGI, are excellent examples of how computers have provided interactive opportunities for individual users, both to enhance their knowledge about the planning and decision making process and to arrive at important immediate plans and decisions for themselves.

These five areas illustrate some of the more important areas which may be the focus of computer enhanced counseling programs. We are also greatly encouraged by the ingenuity of counselors in the use of computers to assist counselees in better preparing for the counseling experience, in progressing through counseling, and in following up the counseling sessions to promote and encourage greater utilization and application of the knowledge and skills developed during the counseling experience. In our judgment, computer enhanced counseling is best served when all three areas--preparation for, interactive counseling during, and interview follow-up--are part of a comprehensive computer enhanced counseling program.

Selecting Appropriate Software

It has been estimated that the available software in any given professional area at least doubles yearly. This suggests that there are many options and choices available to counselors as they review the software they wish to obtain and use. A key to the effective use of software by counselors is their ability to think comprehensively and creatively about software usage rather than in a narrow, prescriptive sense.

Perhaps software for counseling can be categorized in three major areas. The first, counseling-specific software, is designed for specific counseling uses. Interest inventories or study skills preparation may be thought of as this type of software, as well as career guidance systems and stress management programs. Additionally, some of the interactive counseling software which assists clients in establishing plans or making decisions may be appropriately included in this category. The second type, counseling-supportive software, is frequently designed to be supportive to the counselor and the counseling process and covers a variety of administrative and record keeping tasks. The systematic collection of large amounts of data made possible by this software enables the counselor to spot trends with individual clients and/or among groups. The third type, counseling-relevant software, is perhaps the least frequently thought of and used. Counseling-relevant software has often been designed for other purposes but is useful for counseling situations; examples are educational games, simulations, and entertainment software. With this type, counselors can gain valuable insights and clients can acquire a number of skills in such areas as decision making, problem solving, cognitive processing, and cooperation vs. competition.

Choosing the Right Hardware

For some the greatest joy of all is the wide array of mechanical marvels that flash and blink and "sound out" in ways to confound and beguile the user. It appeals to the Babbitt in all of us to look at and fantasize about the type and quantity of equipment that we would like to have. Since fantasy frequently plays a large part in the decision about what hardware to obtain, the subsequent satisfaction is low.

A few guidelines are offered which, if regularly followed, can be useful in deciding how to choose from among the large array of hardware options.

1. Have the software you wish to use clearly in mind before you consider the hardware you wish to purchase and/or use. If in doubt, always give the

preference to the computer which can run the largest amount of software in the specialty or area that you are planning to work in.

2. Be leery of promises and hype about what will be available in the future. Experience has shown that many hardware developers, since they are not directly involved in software development, cannot deliver on the rosy images they present. Go with what is available rather than what may or could be.
3. Think of the real priorities that you have for your computer enhanced counseling program and try to find the hardware which will respond to the most important ones, although not necessarily to all of them.
4. Select the appropriate level of computer power rather than the most powerful. The amount of K of a given computer and its speed may be important in some functions but relatively unimportant for others. Generally, some software--for example, the PC editions of DISCOVER and SIGI--require specific computers such as the IBM-PC to run their programs adequately. In many instances, however, a large quantity of K and double disk drives may be an unnecessary and expensive addition to the computer. Buying the computer power that is needed now may reduce present costs and allow you to obtain new, more appropriate computer hardware in the future.
5. Dedicate computers to specific uses or functions. While the all-purpose computer may sound attractive in advertisements, in practice and from a programmatic standpoint, it frequently is more useful to have computers available to counselors and clients for specific purposes, such as presenting occupational information or desk-top record keeping. Used in this way, a less powerful and less expensive computer can serve a given set of functions very well. Dedicating computers to specific functions also enables program staff to make good use of older computers which are no longer appropriate for the new software programs, but can continue to serve some of the basic counseling program functions well.

CHAPTER IV
LOCATING RESOURCES

The process of specifying computer uses and locating appropriate resources is usually interactive, rather than sequential. In some instances, it may be the awareness of a specific software program, for example, preparing for the SAT, that leads a counselor to consider the application to his/her own counseling program. For other applications, such as career guidance and record keeping software, counselors may know that a wide range of costs and complexity are available. In this case, the counselor is likely to determine program needs first, specifying the criteria that computer applications should meet, and then conduct a search for the resource that best matches those criteria.

Software Directories

Whatever a counselor's current awareness of resources, probably his/her most valuable tool in expanding that awareness and locating specific resources is one of the software directories designed specifically for counselors. The Santa Clara County Office of Education has published a revised version of its Guidance and Counseling Directory of Microcomputer Software each year since 1983. The 1986 edition consists of three volumes: Volume I, The Job/College Directory, covers career/job exploration, job search, job success skills, college entrance exams, and college financial aid; Volume II, The Counseling Directory, covers personal programs such as self-understanding, stress management, self-management skills, and mental and physical health; and Volume III, The Administrative Systems/ Programs Directory, covers scheduling, transcripts, attendance, reporting, grading, and finances.

ERIC/CAPS has recently produced a catalog of software descriptions, Microcomputer Software for Counseling and Student Development. The listings cover administrative aids, athletics, career development, counseling, financial aid, health services, statistical programs, student activities, and testing. Each listing includes a brief description, system requirements, price, and publisher. The catalog also provides an introduction to the state of the art in counseling and student development software, as well as information on databases, electronic mail, public domain software, and relevant publications.

Counseling and Guidance Computer Software Reviews is a publication of the University of Idaho Curriculum Dissemination Center whose purpose is to provide a quick reference evaluation of a representative sample of guidance and counseling software. Twenty-four software programs are reviewed in the areas of career information, career planning, career development, college exploration, scholarship and financial aid information, self-exploration, record keeping and word processing. Each review includes a general description, basic information, format and program specifics, use features for counselors and students, potential or current use in the school setting, and an overall evaluation.

Colorado State University has produced a print directory and microcomputer program, A Review and Evaluation of Microcomputer Software for Guidance, Counseling, and Placement--1985. Seventy-five software programs are evaluated on 24 items related to content, utilization, and technical questions. They are grouped into eight categories and include title, price, description, hardware compatibility, contact person or company name, address, and phone number. The categories are career, self-awareness, job skills, scholarships, college placement, social-personal, administration-management, and testing. Ordering information for all four of these directories is included in Appendix A.

Journals and Magazines

An increasing number of professional counseling journals are devoting special issues to the use of computers in counseling (see Appendix A), and reports on studies of the uses and effects of software systems are beginning to appear in the ERIC database (see Appendix C). While these articles very seldom provide reviews of specific software programs, they do help counselors become better prepared to conduct their own software reviews by alerting them to the issues involved in the various applications of computers. Counselors who are particularly tuned into innovative applications of counseling-relevant software, as described in the previous chapter, can find ideas in both the general education periodicals and popular computer magazines. Some recommended resources in this area are also included in Appendix A.

Vendors

Because the application of computers to counseling is a relatively recent development and also serves a relatively small market, vendors are not nearly as

aware of products or potential applications for counseling as they are for general education or home use. However, they do have access to suppliers' catalogs and are often intrigued by the challenge of locating counseling-specific and counseling-relevant software.

Online Databases

It is perhaps only logical that technology itself should provide the mechanism for providing information about technology. Therefore, counselors who have equipped their microcomputers for telecommunication are advised to investigate the rapidly growing online databases for both software and hardware reviews. (See Appendix A for more information.)

Electronic Networks

Here again technology has introduced a new mechanism for communication. Electronic mail, electronic bulletin boards, and computer conferencing all provide exciting new means by which counselors can exchange information and ideas. For counselors wishing to explore the use of this new media form, ERIC/CAPS has developed a special electronic network, CAPS:HITECH. More information about this network is provided in Chapter VII.

To summarize, it appears evident that counselors who are actively involved in the use of computers are the best sources of information about the development of new products and their potential applications. Therefore, it is highly important that counselors share information, ideas, and experiences with one another through as many channels as possible. In Chapter VII we suggest some strategies for doing this.

CHAPTER V
PUTTING YOUR PLAN INTO ACTION*

Overcoming barriers to change, whether they are external to us or within ourselves, is best accomplished by means of a plan. This is not to deny that on occasion you can cause an obstacle to topple with just the right word or just the right approach—but that occurs only rarely. Generally, barriers stem from multiple sources, and you need to develop thoughtfully a number of approaches to deal with each facet of the barrier.

The following model is presented as a guide to overcoming complex and knotty barriers. Though it can be used to deal with barriers present in individuals, the model probably will be more effective when applied to organizational problems such as in those in schools and colleges, especially when you are working with a team of counselors to identify and overcome what may be several sources of resistance to your plan.

Model for Overcoming Barriers

Step 1. Identify the barriers.

Step 2. Prioritize the barriers.

Step 3. Develop strategies to deal with each barrier.

Step 4. Develop an action plan to implement the strategies.

Sound simple? Well, on the surface it is. Yet, how many of us encounter difficulty at even the first step. To help you understand the model clearly, we have provided a detailed description of the necessary steps.

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*This chapter is a revision of Making Change Happen: Overcoming Barriers to Change (Module 52) by Libby Benjamin and Garry R. Walz, 1979, Ann Arbor, MI: Center for Personal Empowerment.

Step 1. Identify the Apparent Barriers

We say "apparent" because sometimes the real barriers are not immediately clear. The form the resistance takes may obscure the real source, and counselors must look beneath the surface for root causes. Until you can identify whatever is causing the problem, you will be struggling in the dark against the unknown. Therefore, the first step in being able to overcome barriers is to identify them as clearly as possible.

We suggest that you not try to accomplish change all by yourself but organize a group of supporters and/or counselors into a "change team." A very desirable approach to identifying the barrier(s) is to put your change team to work on the problem so as to take advantage of a variety of personal insights and viewpoints. From their own experiences and perspectives, various team members may be able to identify specific aspects of the barrier not known to others.

Example: The counselors in Pine Avenue High School wanted to develop a counseling/computer resource room for students. Although the Guidance Director approved, the Principal gave a thumbs-down response. The counselors and the Director met to discuss reasons for resistance to their new plan.

In their meeting the following information came to light: The location requested for the resource room was used half a day by the Special Education teacher; there was no money in the counseling program's budget to buy computers or software; the Principal was skeptical that computers held such an advantage over less costly print materials, and worried about students using expensive equipment without adequate supervision; the students had started gathering signatures on a petition to let them have the computer resource room; the Board of Education wanted to use computers in critical areas like math and science instruction rather than counseling.

Step 2. Prioritize the Barriers

Some resistances or barriers to a problem are crucial to its resolution; others affect it only tangentially. It is important to spell out clearly which barriers are critical, which are fairly important, and which do not have major influence on the change effort or may fall into place if the more important barriers are eliminated.

Attempting to resolve any but the most critical barriers at first will probably result in wasted effort because the real sources of resistance will still exist. Sorting out the negative influences in categories like the following will help you to develop a plan that will get right to the heart of your problem.

Example: The group members analyzed the forces against their desire for change and ranked them this way:

Most critical barriers

1. The Principal's attitude
2. The Board's attitude

Important barrier

3. Lack of money

Barrier of lesser influence

4. Use of the room half-time

Step 3. Develop Strategies to Deal With Each Barrier

After you rank the barriers in order of importance, you need to decide how to deal with each one. As in the previous step, you will want first to consider ways of transcending the obstacles in the "most critical" category. How are you going to overcome them? Do you need more data about your innovation? Do you need to know more about how it has worked elsewhere--about outcomes, reactions, costs, benefits to the system? What specific information will help you to deal with negative attitudes or lack of material resources?

Essential to overcoming any barrier to change is extensive knowledge about what you propose to do--and this means some homework. You may need to talk to some people, visit other settings, or do a search of a national database to find the information you need.

Once you are clear on your goals, equipped with outcomes data, and secure in the knowledge that what you have in mind is genuinely worth a try, you can begin to generate strategies to deal with resistances. One way is through brainstorming by the staff. Another is by examining methods others have used with success. The purpose is to develop creative ways to move the obstacles out of the way and proceed toward your goal.

The following are suggested methods for dealing with person and non-person barriers. We have delineated behaviors at the ends and the middle of each continuum, and your specific choice of how to overcome your barrier may be a judicious combination of approaches, shaded according to your particular situation.

Person Barriers

Confront the differences directly.	Work through a third party to resolve the problem.	Avoid the person(s) and work with someone else.

----------Barrier----------

Non-person Barriers

Find substitute response, a different way of accomplishing the same goal.	Modify your goal and plan to fit existing resources/structure.	Totally revise your goal and plan.

Example: Through a search of the ERIC system the counselors identified three high schools that had developed similar high-tech resource rooms. Two had data that supported their effectiveness, one report even attributing an increased positivism toward career planning to the new approach. They found that students in the third high school also appeared to be very enthusiastic over the innovation. In the conversations they learned some things about how to make it work well.

The Director and the counselors then developed a report on their findings that included objectives, procedures, and outcomes, as well as their own counselor qualifications and expertise. Then, from their research and discussion, they came up with several actions they could take to overcome the resistances to their proposed innovation.

Step 4. Develop an Action Plan to Implement Your Chosen Strategies for Overcoming the Barriers

Overcoming resistances gives team members the chance to show their mettle; their various skills will be of real advantage in implementing the approaches you have decided upon to overcome the barriers. The key point in this step is to develop a plan of action, with each person having clear responsibility for different steps or stages in the plan. You should also make provision for reporting back to the group on the success/failure of any actions taken so that all team members are kept aware of progress.

Example: The team of counselors and Director developed a detailed plan for implementing their strategies for dealing with the barriers.

One counselor (who had excellent rapport with the Principal) said he would arrange to discuss the report with the Principal, emphasizing the

positive point of increased student interest and participation in career planning activities.

Another counselor undertook the responsibility of gathering the student petition-signers together to see if they could raise money to buy software and career guidance resources.

Another accepted the task of working out with the Special Education teacher a different setting for her students, at least for the rest of the year, with minimal rearrangement.

The Principal, who was anxious to find ways to improve student career planning, decided to give the program a one-year tryout--if the Board approved, and if appropriate resources could be found. The Principal herself then put the counselors' report on the agenda for the next Board meeting.

Short meetings were held frequently so that all members of the planning group could share progress and results with each other.

To help you remember the model, we present it here in its simplest form:

Step 1. Identify

Step 2. Prioritize

Step 3. Develop strategies

Step 4. Develop an action plan

On the following page is a sample exercise for applying the model to a hypothetical situation.

Sample Exercise

WHAT'S THE PLAN?

The counselors at Lakewood High School have tried for several years to obtain additional funding to add computers to their guidance program. Their proposals have failed to win the support of the administration, other staff members, or parents. They have concluded that they need to develop a systematic approach to achieve their goal of expansion. Listed below are some specific steps they can take.

Using the model, first check the four actions that are appropriate to the model. Then place the number of the step to which each action belongs beside each item you have checked.

No.	Check	Action
_____	_____	Search a national database to acquire data about guidance departments that have been successful in using computers.
_____	_____	Have the Guidance Director develop a plan to overcome resistance to computer use.
_____	_____	Develop a composite view of the barriers to computer use that reflects the perspectives of all of the counselors.
_____	_____	Specify the steps individuals go through in deciding whether to adopt an innovation.
_____	_____	Begin your strategy by dealing with the barriers easiest to overcome.
_____	_____	Put everyone to work on all of the different aspects of the problem.
_____	_____	Gather a group of supporters and talk to the Superintendent.
_____	_____	Decide which are the most critical barriers to the problem.
_____	_____	Create flyers on the worth of the counseling center and distribute them to faculty and student body.
_____	_____	Develop a plan for overcoming the barriers based on selected strategies.
_____	_____	Totals

Barriers in the Organization

Several conditions common to many organizations operate as barriers to change. Sometimes these obstacles are easy to recognize, especially when they involve physical limitations or material resources--there just isn't any space, or you just don't have a microfiche reader. Solutions are usually simple--you utilize a storage closet or juggle existing personnel; you borrow a reader from somebody else or have a cookie sale.

Other, more complicated kinds of barriers that act to thwart change efforts may be quite obvious or quite subtle, but they are not so simple to resolve. Typical examples of obvious obstacles are lack of money, or unwillingness of the administration to provide released time for professional personnel to pursue activities not directly related to their prescribed functions. Less discernible kinds of barriers are found in the type of management style that characterizes the administrator, or the psychological support given to creative efforts on the part of the staff.

The following paragraphs describe some common obstacles that are found in organizational settings. Each barrier is presented in its purest state, and it probably will not be found in such extreme form in most organizations. Typically, the condition will exist in lesser intensity, with shadings here and there that soften or cloak its worst features. These gradations, of course, tend to obscure the basic problem, and are the stuff that call for analytical skills on the part of the change agent.

All Decisions Made at the Top. The administration decides what will be done and when, and who will do it. Any staff involvement in decision making is window dressing, designed to make the leaders look good and the employees feel good. The opposite usually occurs: Decision makers don't fool anyone, and the staff resent being conned into thinking they are contributing to the decision. Ideas for change arising from below are viewed as threatening or insubordinate, and individuals who remain on the staff gradually become conditioned into passivity and acquiescence. The sad outcome is that the energetic and the creative become discouraged and leave; even more lamentable--morale suffers, motivation withers, and the institution becomes hide-bound and sterile.

No Rewards. Financial rewards are not feasible in most educational organizations because personnel advance according to a set salary schedule. Changes in position, or even title, are difficult because they usually involve a complicated process for gaining approval. But rewards do not have to be material in nature. If

motivation is to be generated for special efforts, or merely sustained for day-to-day efforts, some form of recognition is necessary from those who count. In many organizations such recognition is not forthcoming. Until the time for the annual evaluation, employees are not told whether their work is satisfactory, how satisfactory it is, or whether any special efforts they may have made were appreciated. The net result is that the urge to excellence, unreinforced, fades. Efforts to be innovative, which demand commitment and energy, falter. And the desire to do more than one is paid to do dissolves into "putting in your time."

No Resources. The absence of needed resources is often a real stumbling block to change. Resources can be of the human kind: a secretary, a consultant, another professional staff member, a knowledgeable speaker--or of the material kind: books, audiovisual equipment, a computer terminal, occupational briefs. Overcoming this type of barrier can appear to be simple, but it would behoove you as the sensitive change agent to look beneath the surface to find out why the situation exists. Are people ignorant of what is available or how to obtain it? Is everyone content to let programs continue "as is" indefinitely, with no urge to modify, alter, or change? Does the administration support and encourage staff efforts to make changes that will require additional materials and/or people? Are staff expected to create their own resources--and if so, has anyone reckoned the cost of such efforts in relation to purchase of ready-made materials? Sometimes this condition is only the symptom, and the real cause lies deep in the values of the organization.

No Money. When administrators throw up their hands, shrug their shoulders, and say, "Sorry--we just don't have the money," many would-be change agents back off and regard the situation as hopeless. Why isn't there any money? Where is the district putting its priorities? Here again, what appears to be an insurmountable barrier may have root causes of serious dimensions. It would be important to examine the goals of the institution to find out why proposed changes that are for the good of the students, the staff, and/or the institution do not win needed dollar support. Beyond this, however, to let this administrative reply extinguish your motivation to change is to quit too easily. Some of the most creative changes occur when you are forced to be inventive, to find nontraditional ways to implement whatever change you envision. Having no money is surely a discouraging obstacle, but one which can be surmounted.

No Released Time. This is a toughie. We are all familiar with the situation where the staff are expected to carry out extra responsibilities or participate in professional growth experiences "after five and on weekends." This is an unrealistic expectation and creates a barrier that has impact on everyone. No provision is made to shift responsibilities so that individuals have the time they need to explore new ways of performing their tasks, to develop new programmatic ideas, to enhance their skills to do what they do better, or to acquire new skills that will be more responsive to client needs. Persons working in such organizations usually pay their own way to professional meetings, if they are allowed to go, and may not even earn their regular salary during the time they are away from their work. Accomplishing change under these conditions will probably be extremely difficult.

No Opportunity for Idea Development and Try-Out. There's an old military saying, "Never volunteer," and this typifies the organization that keeps staff so chained to ongoing tasks that they have no time for thinking and planning. New ideas or suggestions only result in added work and responsibility, but the tight work schedule allows no room for such activities. In these organizations, creative staff with innovative suggestions (that require time for planning and development) may even be encouraged and rewarded verbally, but in the end they are almost punished because they are expected to work out their ideas for change on their own time. Encouragement not backed up with substance is a strong barrier to change. The unfortunate outcome of this organizational barrier is the stifling of creative efforts and the discouragement of innovative thinking.

Deviance from the Norm Discouraged. The organization which strongly reinforces conformity is unwittingly (perhaps) erecting a barrier to change, because the other side of this coin is discouragement of deviance from the norm. Change implies departure from tradition, newness, doing things differently, reorganization, upheaval. When the "usual" is valued, changes are viewed with suspicion and advocates of change with apprehension. The attitude of members in this kind of organization might well be, "So-and-so is a rabble-rouser and doesn't belong in our system. Let's do what we can to get him/her out." And they usually are successful. This kind of work environment breeds contentment for those who subscribe to the inherent values, and complete frustration for the movers and doers. Change, when and if it happens, will be exceedingly slow, will occur in barely observable increments, and will probably lag far behind the need for it.

Barriers in People

On many occasions you undoubtedly have been involved in discussions where someone has said, "I don't believe it's possible to do that." Such a comment can have several meanings, but most often it suggests that the speaker is resisting change. Such resistance can take many forms. When it is a generalized reaction to change of any kind, it may be thought of as a personal barrier which interferes with the individual's ability to grow professionally or to improve the quality of services he/she provides.

Below is a list of the more common garden variety of personal barriers. In reading the descriptions you will probably recognize some characteristics which you have observed in others--or possibly some that lie within yourself.

"Things Are Just Fine the Way They Are..." Typical of persons who possess this attitude is a high degree of personal comfort and satisfaction and an unwillingness to "rock the boat." Individuals who exhibit this barrier are generally unable or unwilling to take the risks associated with change. The satisfaction they feel with current conditions may reflect more their personal need for stability and comfort than the quality of what they do. Mediocrity becomes preferable to the effort involved in making changes necessary to improve their functioning. These individuals often are characterized by rigidity and dogmatism. They are particularly difficult to motivate to change because they have no interest in considering alternatives which would require them to perform different tasks or experiment with new behaviors.

"But We've Always Done It This Way!" "The traditional way is best" might well be the motto of persons experiencing this barrier. This appeal to the past and to tradition often masks a lack of creativity and/or an unwillingness to try out new ways of doing things. Minimal desire for adventure and risk-taking are also characteristic of such individuals. Innovations are suspect because they do not have history and tradition behind them. Hence, no matter how attractive the proposed change may be, they personally find it difficult to support or accept.

"That Will Never Work..." Pessimism and doubt are the primary feelings associated with this personal barrier. Individuals with this attitude will advance a hundred reasons why something won't work, but will express nary a word in support of it. The basic dynamics of this barrier spring from fear of the unknown and the untried. Such individuals see obstacles where none exist, and conjure up problems of all manner and sort. This barrier is difficult to cope with, for no matter how

compelling a proposed change may be, countless, often irrational, reasons will be proffered as to why it shouldn't or can't be done.

"I'd Be Afraid to Try That..." Low self-esteem and a negative self-concept can lead to a barrier that precludes a person from attempting something different. "I know I won't be able to do it" provides a ready, self-fulfilling prophecy which eventually dissipates any latent desire to try at all. The fear of failure looms so large that inaction, even stagnation, is preferred to trying and failing. This barrier is truly a serious one to deal with, for the change will be rejected not because of the change itself but because of the certainty of failure felt by the individual.

"You Don't Need to Tell Me—I Know What's Best!" The self-proclaimed expert has an answer for everything. No need to present data or supporting evidence for an idea. This individual already knows what's best, and because of a basic insecurity, is afraid that his/her acceptance of anyone else's proposals will be interpreted as a sign of weakness. This barrier is particularly perplexing to encounter, for the more meritorious an idea or activity, the greater its potential threat to the individual and thus the greater the individual's resistance to its adoption.

These are only a <u>few</u> examples of common attitudinal barriers, and we are certain you know of a great many more. People who resist new ideas just because they are new possess personal barriers of one kind or another. Such personal barriers seriously impede the process of change, and learning to recognize them will help you to be able to conquer them.

Developing an Action Plan for Overcoming Barriers

To help identify barriers that impede organizational change and enhance your ability to overcome them, we suggest developing an action plan for an actual situation of your own. Appropriate forms are provided on the following pages, including a completed Action Plan to use as a guide.

1. The first task is for each person on your "team" to share an organizational resistance to using computers in counseling that he/she has experienced or knows about--one in which a number of barriers interfered or are interfering with the achievement of a desired change.
2. In whatever way you wish, select one of the resistance situations as the focus of your efforts.

3. Using the form, "Action Plan for Overcoming Barriers," complete the steps which you could use to eliminate or minimize the barriers to change that you describe in Step I. When you are through, you may wish to share your plan with others for their reaction and suggestions.

Example

ACTION PLAN FOR OVERCOMING BARRIERS

Goal for change: To allow two counseling staff members each year to attend a workshop on computers in counseling.

Step 1. Identify the apparent barriers.

c 1. Lack of funds
c 2. Lack of verbal support from the administration
n 3. Press of ongoing duties
n 4. Lack of interest on the part of some staff
i 5. Criticism from other faculty

Step 2. Prioritize the barriers.

c = critical; i = important; n = not of real importance

Step 3. Develop strategies to deal with each barrier (critical barriers first).

Barrier	Strategies	Action Steps
1. Lack of verbal support from administration	1a. Communicate desire to principal	1a. Rally supportive counselors Find out agenda, cost, and location for next workshop Schedule meeting of interested counselors to plan strategies Schedule meeting with Guidance Director and Principal (etc.)
	1b. Show how attendance can benefit staff and school	1b. Review recent student needs assessment Identify workshop programs that respond to needs Identify skill training sessions for emerging counselor roles Ask workshop presenters to visit school to share ideas (etc.)
2. Lack of funds	2a. Locate possible unused school funds	2a. Discuss in meeting with administrators (etc.)
	2b. Raise money (with administrative approval)	2b. Have counselors meeting to plan strategies (etc.)
3. Criticism from other faculty	3a. Promote openness with other faculty	3a. Include faculty in staff meetings Attend meetings of other departments Eat lunch with different faculty daily (etc.)
	3b. Show how attendance can benefit faculty	3b. Identify specific faculty concerns Identify programs that will enhance skills Discuss plans in faculty meetings
etc.	etc.	etc.

Step 4. Develop an action plan to implement the strategies.

As above.

ACTION PLAN FOR OVERCOMING BARRIERS

State the change you would like to have happen: _____

_____

Step 1. Identify the apparent barriers.

___ 1.
___ 2.
___ 3.
___ 4.
___ 5.
___ 6.

Step 2. Prioritize the barriers.

In Step 1:
a. put a "c" beside those barriers that are "most critical."
b. put an "i" beside those barriers that are "important."
c. put an "n" beside those barriers that are "not of real importance."

Step 3. Develop strategies to deal with each barrier.
(List most critical barriers first; list at least 3 barriers.)

Barrier	Strategies	Action Steps (for Step 4)
1.		
2.		
3.		

Step 4. Develop an action plan to implement each strategy. List the actions in the column beside the strategy.

Barriers in Me

Everything we have discussed so far has dealt with conditions "out there," with barriers in the organization and in other individuals that get in the way of change. But what about you? Are there some things you do, or attitudes you have, that cause you to resist change? Remember, we are not saying that you should be indiscriminately accepting of change. Not all change is for the better. Your response to change should be selective--sometimes supportive and sometimes rejecting, depending on the substance of the change. What we are talking about is creating a barrier by your own attitudes or behaviors, or having a "set," which predisposes you to reject any change, irrespective of its merits. For example, some people find it difficult to accept any idea proposed by an authority figure, while others are always thinking up reasons why a proposed change will never work.

On the following page is a list of personal barriers that can block change. Review the list and choose the one which you believe is most typical of you. It may be that you won't find one which is really appropriate to you; if so, perhaps you can suggest another. Action plan forms for overcoming personal barriers are also provided, including a completed one to use as a guide.

Change rarely is accomplished under ideal conditions. Most often, attempts to improve behavior or conditions or to introduce innovations encounter obstacles. And those obstacles almost always involve people--even when the barrier consists of a material lack. Some person has made a decision along the line that has caused the situation to occur. So, overcoming barriers to change really means overcoming the barriers people have to change.

WHAT'S MY PROBLEM?

I resent authority figures--especially stupid ones.

I feel as if your ideas for change mean I'm doing something wrong.

I don't think it will work.

I hate to stick my neck out.

I'd rather do it the way we've always done it.

I don't think I can do it.

I'm always trying to find reasons why it won't work.

I'm afraid to succeed.

I think it's too much trouble.

I've already got too much to do.

What's wrong with what we're doing now?

I wouldn't know where to begin.

I feel threatened by it.

I can't do it alone.

It costs too much.

I just don't care.

I just don't need that.

Other things are more important.

I resist change when someone else suggests it--I want to be the one to do it.

I feel I will lose my power or control if we change.

Example

PERSONAL ACTION PLAN FOR OVERCOMING A BARRIER

Step 1. Identify your personal barrier.

I always try to find reasons why something won't work.

Step 2. State reasons why you think you have this barrier. Then number them in order of importance to you.

4 a. I'm afraid of change.

1 b. I don't like to be told what to do.

3 c. I like things the way they are.

2 d. I sure don't want to have to do anything more.

Step 3. Develop strategies to deal with the two most important reasons.

Reason	Strategy	Action Plan
I don't like to be told what to do	Try to change my attitude	Consciously note when I'm feeling this way
		Try to overcome the feeling and listen to the suggestion
		Give myself a reward when I do listen
		Make first attempt at next staff meeting
I don't want to do anything more	Be more flexible	Write down what I'm doing now
		Set priorities
		Decide what I'm doing that others can do
		Make a time schedule, with some free time
		Follow it!

PERSONAL ACTION PLAN FOR OVERCOMING A BARRIER

Step 1. **Identify your personal barrier.**

Step 2. **State reasons why you think you have this barrier. Then number them in order of importance to you.**

___ a.

___ b.

___ c.

___ d.

Step 3. **Develop strategies to deal with the two most important reasons.**

Reason	Strategy	Action Plan
a.		
b.		
c.		

CHAPTER VI
PREPARING FOR ACCOUNTABILITY

With any new program or tool, there is the inevitable question, "Does it work?" And when the new program or tool entails additional expenses for equipment, supplies, personnel, and/or training time, those in charge of the budget want to know "How is it better?" and "Are we getting our money's worth?" Therefore, when designing a computer enhanced counseling program, it is wise to prepare for accountability and build in data collection strategies from the very beginning.

Cost-Benefit Issues

To stimulate your thinking about potential costs, we suggest that you investigate not only the original costs of equipment and supplies, but also the ongoing costs of maintenance and updating. Moreover, "hidden" costs (e.g., time for staff training) should be balanced against "hidden" savings (e.g., computer vs. professional time spent in information retrieval).

To stimulate your thinking about the potential benefits of using computers, try brainstorming answers to the following three questions:

What will computers help me do more of?

What will computers help me do better?

What will computers help me do that I couldn't do before?

There is no simple cost-benefit formula that can be applied to the use of computers in counseling because the definition and the importance of specific benefits vary from one setting to the next. Formulas have been developed to calculate the cost per user of computer-assisted career guidance systems (see Maze & Cummings, 1982, pp. 48-51) but the costs obtained must still be balanced against the quality and quantity of user outcomes produced by each system and the perceived importance of those outcomes by those directly involved.

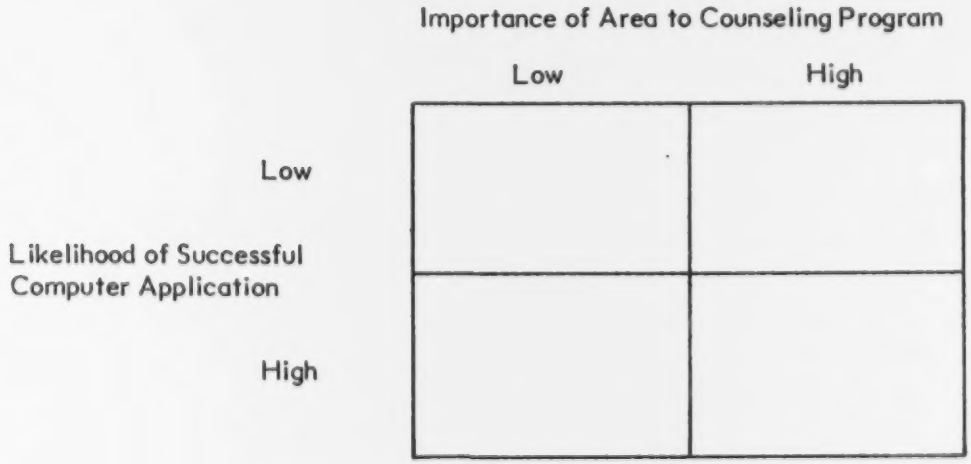
Therefore, we suggest that you use the following guidelines to tailor your accountability strategy to meet the needs of your own setting.

1. Focus Your Efforts. When preparing for accountability, it is very tempting to collect as much data as possible so that one can be ready to answer whatever questions may arise. Unfortunately, this can be very time-consuming and may even detract from the effectiveness of the program. To help focus your efforts, first

identify the "stakeholders" in your program, i.e., those persons who hold a stake in it as developers, implementers, sponsors, or users. Recognizing that evaluation and accountability are as much political as scientific endeavors, you should then decide which group or groups are most important to address. This does not mean that you will not pay attention to the needs and interests of the other groups, but that your primary efforts will be devoted to collecting information that will be of concern to those who have the power to decide whether or not the program will be continued, expanded, or dropped. In most cases, the information that is of concern to this group will also be of interest to the other groups.

Then, rather than trying to second guess what would most impress the key decision makers in these groups, conduct a brief informal survey, asking them what would convince them that using computers is worth the cost involved. By getting them to specify their expectations in terms of costs and benefits, you will obtain not only specific criteria for measuring program success, but also your stakeholders' commitment to accept those criteria. Unfortunately, this is not as simple as it sounds. Some stakeholders may need to be educated about realistic costs and outcomes, and conflicts in expectations among stakeholders will need to be negotiated and resolved. Still, the process opens communication and helps to provide a sense of ownership of the evaluation by diverse groups of stakeholders.

A second strategy for focusing your evaluation efforts is to concentrate on one pilot project at a time. To enhance the effectiveness of this strategy, first identify specific areas of computer application which are likely targets for evaluation. Then categorize each application in the following matrix:



For example, producing transcripts of students' records may be high in likelihood of computer application, but low in importance to the counseling program. On the other hand, crisis counseling may be high in importance to the counseling program, but low in likelihood of computer application. Probably the best example of an area that would be high in both dimensions is career guidance. Again, the priorities of stakeholders and the primary goals of the counseling program need to be carefully considered when categorizing areas in the matrix.

It is also helpful to break broad areas into more specific ones. For example, career guidance might be separated into career awareness, retrieval of occupational information, career planning, etc. This helps to further focus the evaluation so that you can select appropriate measurement instruments.

Once you have categorized all the potential target areas which you could select for pilot projects, focus on those that fall in the lower right square. This will help you put your energies into evaluating low-risk, high-payoff computer applications and will help pave the way for later expansion into the other areas.

2. Define Your Measurement Strategy. Here again it is important to obtain stakeholder input regarding the acceptability of specific measurement instruments and procedures. In some cases, your stakeholders will have been very specific about what would convince them of the computer's success: for example, "90% of all ninth grade students will have an opportunity to work through a computer-assisted career guidance program and will receive at least one-half hour follow-up consultation with a counselor," or "the average score on a study skills test will increase significantly after students have used a software program on study skills," or, to be more rigorous, "students who use a computer-assisted career guidance system will score significantly higher on a career awareness test than will students who receive traditional career counseling." In these cases, measurement strategies are already defined to a large extent. In most cases, however, you will need to select or develop measurement instruments and strategies and to verify with your stakeholders that they will, in fact, provide the desired data.

In selecting or developing your instruments, we suggest that you "triangulate" your approach to provide more comprehensive coverage--this means using three data collection strategies simultaneously. While they could be three ways of collecting the same type of data, it would probably be more useful and informative to collect three types of data concerning the outcomes of a specific application. For example, in assessing the outcomes of the use of a software program on study

skills, you might measure (1) knowledge gain by administering pre/post standardized study skills tests; (2) attitude change by using pre/post semantic differential ratings (e.g., taking tests is: easy.....hard; taking notes is: boring.....challenging); and (3) behavior change by using interviews and/or a self-report "retrospective" pretest. An example of the type of item that could be used on this last type of instrument would be:

	Before the Program					After the Program				
	Not Like Me				Like Me	Not Like Me				Like Me
I study at least one hour every night.	1	2	3	4	5	1	2	3	4	5

Although the examples given in this section all pertain to computer-assisted counseling, similar measurement strategies could be developed for computer-managed counseling by focusing on such things as counselor attitude toward record keeping, number of errors in course scheduling, or speed of record retrieval. In defining strategies for measuring the effects of both computer-assisted and computer-managed counseling applications, the two major keys to success are: (1) to be creative and imaginative in identifying indicators (i.e., the variables that indicate what effect the program is having); and (2) to obtain prior stakeholder approval/acceptance of whatever indicators and instruments are selected.

3. Conduct the Study. While this may seem too obvious even to mention, we include it because all too often evaluations are conducted of programs that are not completely implemented. Therefore, we want to emphasize the importance of actually following through both on the evaluation strategies and on the implementation of the program to be evaluated. If, for some reason, the program is not carried out as planned, any changes should be documented (e.g., students were given only one-half hour to complete a program that normally requires forty-five minutes). Adjustments in expected outcomes should then be negotiated with stakeholders.

4. Diagnose the Program's Strengths and Weaknesses. Whenever possible, evaluation studies should be formative rather than summative in their purpose and design. In other words, while they may provide the summative conclusion that a particular program works or doesn't work, they should also provide information regarding <u>why</u> and <u>to what extent</u> the program works or doesn't work. Then,

particularly if there has been a heavy investment of money, time, and/or emotion into the program, there will at least be information available to suggest strategies for improving the program and increasing its likelihood of effectiveness in future trials.

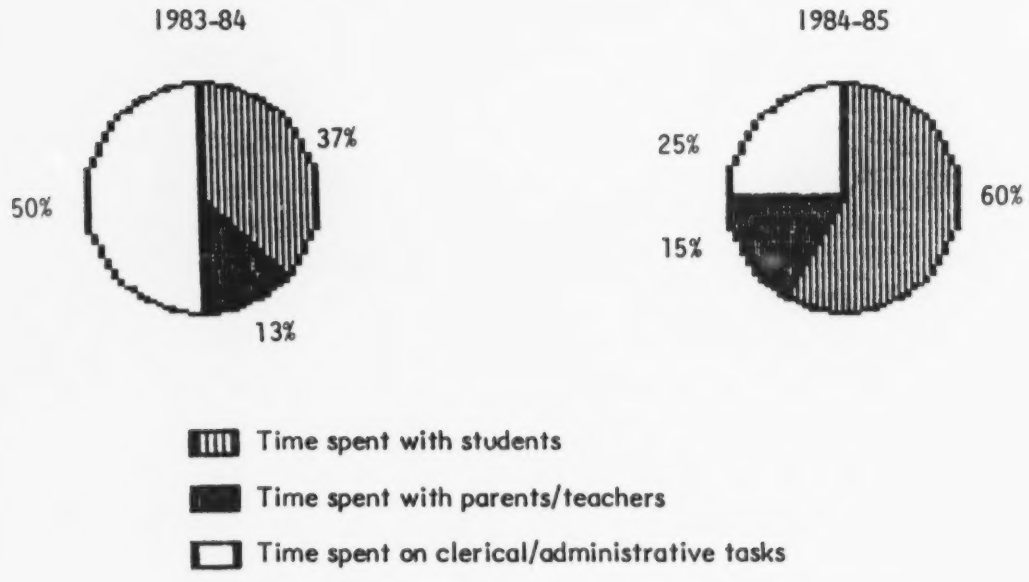
While the feasibility of obtaining diagnositc information depends a great deal on the thought that has gone into the original measurement plan, there is also a great deal that can be done through retrospective analysis. For example, did the program work better for girls than for boys, for seniors than for sophomores, for high achievers than for low achievers—or vice versa! These kinds of questions are often based on the hunches and intuitions of those involved in implementing the program and are usually worth investigating.

Unless the evaluation design calls for complex tests of statistical significance, analyzing data for evaluation studies does not require sophisticated technical skills. In most cases, simple frequency counts arranged in logical charts or tables are quite adequate. If you want to know if a particular difference between variables is "real" from a statistical standpoint, you can always turn the data over to a statistician; but you have already done the basic analysis and the statistician's job should be relatively quick and easy.

5. **Share the Results.** In reporting the results of your evaluation, we suggest you keep in mind two keywords: timeliness and simplicity. Too often, evaluation reports are labored over extensively until (1) stakeholders' interest in and use for the results have long disappeared and/or (2) the report is so intimidating in both its size and its complexity that hardly anyone attempts to read it. A brief two- or three-page summary, presented immediately after the data are collected, can have a much greater impact on decision makers than a 50-page analysis presented a year later.

Most decision makers do not have time to read and digest lengthy discussions and, in fact, what they prefer even more than tables and charts are simple graphic displays of the results. These can be particularly impressive if they are computer-generated, but this is not essential. Following is an example of an effective representation of data.

Impact of Computerized Record Keeping



In summary, we would like to suggest that you view the demand for accountability not as something negative or a threat, but rather as an opportunity to promote your computer enhanced counseling program. With careful planning, the presentation of evaluation results not only provides useful information for program development and improvement, but also calls attention to the achievement of significant outcomes by both the innovation that is being introduced and the traditional services that are being maintained.

CHAPTER VII
SHARING IDEAS AND RESOURCES

ERIC Database

If the half-life of a professional's knowledge is three years, half of it becoming obsolete after that time, one way to keep up to date is to use computerized information. Storing the information and selectively retrieving it as needed thus becomes a relatively easy task.

The ERIC system not only stores and retrieves information for users, but also does the job of acquiring it in the first place. For counseling professionals, ERIC can provide over 20,000 references to counseling and guidance information. Nearly 4,000 of these have been put into the database in the past four years. The references include complete resumes of two basic areas of literature: previously unpublished documents and articles appearing in professional education journals.

Through this system, counselors can gain access to information that would otherwise remain elusive or totally out of reach: innovative programs and practices from around the country, conference proceedings, public hearings, bibliographies, significant speeches, professional papers, and reports of current findings in education research and development.

But the database is only as good as the input, and that means it's important for counselors to write up what they are doing and submit it for inclusion in the ERIC system. If finding time or putting things in writing is a problem, teaming up with another counselor or two can probably overcome that obstacle. Once the materials have been processed into the database, they become available to users through more than 3,000 institutions providing access to ERIC products. Recent estimates of the number of ERIC users, on an annual basis, are 2.7 million--that's a lot of sharing! The ERIC computer search in Appendix C illustrates the variety of on-target information currently in the database on the topic of counseling and computers. If you would like to submit counseling materials for inputting in the system, Appendix D contains an ERIC reproduction release form to send along with your submission (preferably two copies).

Professional Workshops and Conferences

Another way to share ideas and resources is face-to-face at professional meetings. Counselors can present papers and programs as well as organize local and regional workshops, bringing in consultants as needed for new or unfamiliar areas.

Attending national conferences is often limited because of distance and expense, but one counselor going as a representative of a larger constituency provides a range of exposure and interaction that is possible only at a national level. In a complementary way, close-to-home meetings allow for greater numbers of counselors to get together, focusing on single, region-wide concerns and enabling practical, network-sharing of resources. Workshops on computers in counseling can be especially effective at this level because more counselors have an opportunity for the hands-on experience and practical demonstrations that are crucial to successful computer use. ERIC/CAPS professional staff are also available to help counselors organize and conduct computer workshops in their own localities.

Electronic Networking and CAPS+HITECH

Electronic networking* uses the computer to help people communicate through exchanging messages and through group discussions around a particular topic. Of course, this kind of communication happens already with mail, telephones and face-to-face meetings. The computer, however, can help break down the "time and space" barriers that constrain conventional communication, because it allows participants with access to equipment to communicate at their convenience, day or night, without regard to their geographic location.

While sitting at a computer terminal or a microcomputer equipped to operate as a terminal, you dial a telephone number (a local call in many cities) and connect to a computer at a distant location. The computer asks you to identify yourself and what it is you want to do. You tell the computer to get you into a particular CONFER computer conference so you can carry on your business. Since the last time you checked in, other participants have done what you are now doing and may have sent you personal messages or made some comments on an ongoing discussion

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*This information is adapted from "Confer Q & A," distributed by the Professional Development Office, School of Education, The University of Michigan.

that you are following. They have done this from their distant locations and at times convenient to them. All of you are accomplishing your communication needs without having to be in the same place or arranging for a conference call across several time zones.

As far as equipment is concerned, there are many options and it pays to shop around and to seek good advice. You can use conventional computer terminals that have been around for years (with either TV screens or paper printout), or you can adapt a microcomputer to behave as a remote terminal. Almost any micro can be equipped to operate as a terminal. Be sure to consult someone knowledgeable about your options. This goes for software, too. For example, some software will operate a printer and some won't. And there is some free software to be had in the "public domain" by asking around.

CAPS:HITECH, a special electronic network designed just for counselors, has recently been organized at ERIC/CAPS. The network's main function is to provide an effective and efficient means for disseminating the rapidly growing body of knowledge and resources about the use of computers in counseling. CAPS:HITECH members may enter items or questions for general discussion, respond to items already entered, send and respond to private messages, and request online consultation from ERIC/CAPS professional staff.

This system, still in the experimental stage, offers a number of attractions:

1. Timely and useful information exchange. A person who needs information and communicates that need to the other network members is likely to receive numerous ideas from those members, as well as suggestions for relevant printed materials and other resources.
2. Equal participation status. In most interactions and meetings among professionals, a clear hierarchy exists where the greatest national reputations and experience dominate the proceedings. Electronic networks enable the less-experienced, the less-well-known, and the less-confident to participate equally and make contributions without fear of censure or rejection. As a result, the experience for the individual participant may be more positive than in face-to-face meetings, and the outcome as a whole is more likely to include the input and suggestions of greater numbers of people.
3. Low cost/high benefit. When compared to the cost of conferences at a distant site, or telephone conference calls, the time, energy and money to

participate in an electronic network seems small indeed. The experience is also extremely cost-beneficial because participants are likely to gain far more in meaningful ideas and resources. Frequently, most of our questions arise after a meeting or discussion occurs. The network enables us to pursue those questions without losing the impact of the original interaction.

Counselors, counselor educators, student personnel workers, and human services specialists are all eligible to join CAPS:HITECH (see Appendix E for application form). Necessary equipment includes a telephone, access to a long distance telephone service (e.g., TELENET or DATAPAC), and access to either a conventional computer terminal or a microcomputer that has been equipped with a modem and communications software.

The registration fee for joining CAPS:HITECH is $50. This provides an ID number, a password, instructions for signing on, a complete user's guide for CONFER, and $20 worth of computer connect time. Once registered, each user can continue CONFERencing indefinitely by replenishing the computer account whenever it gets low. Computer costs are automatically deducted and displayed at each conference sign-off. Rates can range from $12 an hour during the day to approximately $7 an hour during evenings and weekends. The average length of a CONFER session is about ten minutes. The initial fee is likely to provide 12 or more conference sessions.

CHAPTER VIII
GENERALIZATIONS ABOUT COUNSELING AND COMPUTERS

The following generalizations are experience based, not necessarily formulated from empirical research. They are intended to describe the state of the art in the use of computers in counseling and serve as a summary of what has been discussed. More importantly, we intend that the generalizations stimulate you in your thinking to move from what counseling is to what you would like counseling to be when combined with computers.

1. It is easier for counselors to sell decision makers on acquiring new technology (e.g., computers) than it is on acquiring new staff.
2. The introduction of computer enhanced counseling does not diminish the desire for or the appreciation of one-on-one counseling.
3. Spending for technology in counseling is the inverse of the usual approach--more money needs to be dedicated to the training of staff (personware) and software, less to the purchase of hardware.
4. The quality of the hardware to be purchased, unfortunately, is frequently given greater attention than the quality of the training of the people who will use it.
5. Small, flexible computer systems controlled by the counselor/client are likely to produce more desirable outcomes than larger, monolithic mainframe systems controlled by central administration.
6. An emphasis on managing and controlling counselors' use of computers leads to diminishing returns--playfulness and experimentation are an essential ingredient of the successful use of computers by counselors.
7. Resourcefulness and the ability to plan for the creative use of software and materials that have not been designed with counselors in mind are more important counselor skills in the use of computers than technical skills (e.g., the ability to program).
8. Computer networking is an essential component of the effective use of computers by counselors--since no central source of information on successful practices exists, counselors must swap successful ideas and resources if they are to have access to what they need.

9. Frequently the greatest barriers to the use of computers in counseling are the counselors themselves. The reluctance of counselors to infuse technology into their thinking and their delivery is more of an obstacle than external barriers.
10. Client/student acceptance of computer enhanced counseling frequently is greater and occurs more readily than does counselor acceptance.
11. A systematic, goal-oriented action plan using a proven change model is essential if the use of computers in a given counseling program is to be more than window dressing or keeping up with the Joneses.
12. The optimum utilization of computers in counseling would seem to be a locally generated intermix of pre-packaged computer-assisted counseling programs, a judicious selection of counseling specific and non-specific software, and a comprehensive use of computers for program management, storing and reporting of data and communications (letters and reports).
13. Potential support groups for computer enhanced counseling programs (e.g., parents, teachers, administrators, community groups) have a positive inclination toward the use of computers in all phases of education and frequently will be supportive, both verbally and financially, of their greater use by counselors.
14. The early months in the adoption and use of computers in counseling are crucial--the immediate result may not be improvement but confusion and added work.
15. The use of computers in counseling may be the best opportunity yet to involve faculty and the community in planning counseling programs that they can vigorously support.
16. Each counselor user of computers will wage his/her own personal war with the computer to establish that he/she is master, not servant, and that the computer enhances his/her image and effectivenss, not diminishes it.
17. Like a brush fire, computers once introduced into a counseling program can blaze out of control unless rigorous prior planning has gone into deciding the outcomes that are sought and how they are to be achieved.
18. A new form of leadership is needed for effective use of computers in counseling--one that nurtures innovation and change in counseling and facilitates the linkage of people and resources to achieve high priority goals.
19. (Your own personal observations and feelings.)
20. (Your own personal observations and feelings.)

Appendix A

Recommended Resources

I. BASIC Programming

Carlson, E. H. (1982). Kids and the Apple. Reston, VA: Reston Publishing Co.

Dwyer, T. A., & Critchfield, M. (1980). A bit of BASIC. Reading, MA: Addison-Wesley.

Lamoitier, J. P. (1982). BASIC exercises for the Apple. Berkeley, CA: Sybex.

Larsen, S. G. (1981). Computers for kids. Apple II plus edition. Morristown, NJ: Creative Computing Press.

Quasney, J. S., & Maniotes, J. (1984). BASIC fundamentals and style. Boston: Boyd & Fraser.

II. Computers: General Information

Books

Editors of Consumer Guide. (1982). Easy-to-understand guide to home computers. Signet paperback.

Editors of Consumer Guide. (1986). Computer buying guide. Signet paperback.

Logsdon, T. (1982). How to cope with computers. Rochelle Park, NJ: Hayden Book Co.

Moody, R. (1982). The first book of microcomputers. Rochelle Park, NJ: Hayden Book Co.

Magazines

Electronic Learning. Scholastic, Inc., 902 Sylvan Avenue, Englewood Cliffs, NJ 07632. Practical ideas, basic information for educators. Grades 7-12. $15/year, 8 issues.

Family Computing. Scholastic, Inc., 730 Broadway, New York, NY 10003. Grades K-12 plus parents. $19.97/year.

Infoworld. 375 Cochituate Road, Framingham, MA 01701. Current issues and information about microcomputers, including hardware, software, industry news, and applications. $31/year, weekly.

Microzine. Scholastic, Inc., 902 Sylvan Avenue, Englewood Cliffs, NJ 07632. Interactive magazine on disk with teaching guide, lesson plans, and student handbook and activities. (Apple II). Grades 4-8. $149/year, 6 bimonthly disks.

Personal Computing. Hayden Publishing Co., P.O. Box 2942, Boulder, CO 80322. $18/year, 12 issues.

Online Databases

BRS - Bibliographic Retrieval Services

DISC - Data Processing and Information Science Contents.
Subject access to computer journals. Includes articles, columns and reviews. From January 1982 on. Updated twice monthly.

ERIC - Educational Resources Information Center.
User may search for information on the uses and applications of computer technology in education.

RICE - Resources in Computer Education.
K-12 software evaluations done by MicroSIFT (network project sponsored by the Northwest Regional Educational Laboratory). MicroSIFT is a consortium of 25 educational organizations serving as reviewers and test sites for software evaluation.

COMPU-SERV

T.E.S.S. - The Educational Software Selector
Sponsored by EPIE - Consumers' Union and Teachers' College, Columbia. It includes citations of software programs, product descriptions, broad range of curricula for instructional software and product descriptions.

Lockheed (DIALOG) (800-277-1927)

ERIC (See listing under BRS)

International Software Database (File #232)
Descriptive software evaluations which allow user to choose software for preview or particular applications. Includes minicomputers and microcomputers.

Microcomputer Index (File #29)
Subject and abstract guide to over 21 microcomputer journals. From 1980 - present.

III. Counseling and Computers

Books

Johnson, C. (Ed.). (1983). Microcomputers and the school counselor. Alexandria, VA: American School Counselor Association.

Maze, M., & Cummings, R. (1982). How to select a computer-assisted career guidance system. Madison, WI: University of Wisconsin, Vocational Studies Center.

Sampson, J. P., Jr., Shahnasarian, M., & Maddox, E. N. (1984). Implementing computer assisted career guidance systems and other computer applications for the adult learner. Ann Arbor, MI: The University of Michigan, ERIC Clearinghouse on Counseling and Personnel Services.

Walz, G. R., & Bleuer, J. (Eds.). (1984). The C^3 experience: Counseling, computers, and creative change. Ann Arbor, MI: The University of Michigan, ERIC Clearinghouse on Counseling and Personnel Services.

Special Issues of Professional Journals

Devlin, T. C., & Kanoff, I. V. (1984). Computers and placement. The world of microcomputer technology. Journal of College Placement, 44(4), 30-36.

Ekstrom, R., & Johnson, C. (Eds.). (1984). Computers in counseling and development (Special issue). Journal of Counseling and Development, 63(3).

Furmanski, P. H., & Crockett, R. R. (1984). Computers and placement: Using the university mainframe. Journal of College Placement, 44(4), 38-42.

Myers, R. A., & Cairo, P. C. (Eds.). (1983). Computer-assisted counseling (Special issue). The Counseling Psychologist, 11(4).

Oster, S. M., & Churchill, G. R. (1984). Computers and placement: A match that works for two-year colleges. Journal of College Placement, 44(4), 43-47.

Phillips, S. D. (Ed.). (1984). Computers in counselor training (Special issue). Counselor Education and Supervision, 24(2).

Walz, G. R. (Ed.). (1985). Computers and career development (Special issue). Journal of Career Development, 12(2).

IV. Directories of Counseling Software

Counseling and guidance computer software reviews. (1984). Moscow, ID: University of Idaho, College of Education, Vocational Teacher Education, Curriculum Dissemination Center. Order information: $15.00. Send to Idaho Curriculum Dissemination Center, Vocational Teacher Education, College of Education #208, University of Idaho, Moscow, ID 83843.

Feller, R., & Knoll, G. (1985). A review & evaluation of microcomputer software for guidance, counseling, & placement. Fort Collins, CO: Colorado State University, Department of Vocational Education. Order information: $15.00 (includes software disk, postage and handling). Send to GCP Software Reviews, Department of Vocational Education, Room 227, Colorado State University, Fort Collins, CO 80523.

Guidance and counseling directory of microcomputer software. (1986). San Jose, CA: Santa Clara County Office of Education. Order information: $20.00 for set of three volumes. $9.00 for Vol. I, The Job/College Directory. $7.00 for Vol II, The Counseling Directory. $7.00 for Vol. III, The Administrative Systems/Program Directory. Send check or purchase order made out to "County School Service Fund" to C/VEG Publications, Santa Clara County Office of Education, 100 Skyport Drive, Mail Code 236, San Jose, CA 95115.

Watjen, R. (Comp.), Bleuer, J., & Walz, G. R. (Eds.). (1984). Microcomputer software for counseling and student development. Ann Arbor, MI: The University of Michigan, ERIC Clearinghouse on Counseling and Personnel Services. Order information: $9.00 plus $2.00 shipping and handling, prepaid. Send check with order to: ERIC/CAPS Publications, 2108 School of Education, The University of Michigan, Ann Arbor, MI 48109-1259.

Appendix B

Sample BASIC Exercises for Counselors

THE GOTO STATEMENT

1. Type: NEW
2. Type:

```
10 TEXT:HOME
20 PRINT "I HAVE TO SEE MY COUNSELOR!"
30 PRINT
40 GOTO 20
50 END
```

3. Type: RUN
4. Press [CTRL] + [C] to stop.

THE INPUT STATEMENT

1. Type: NEW
2. Type:

```
10 TEXT:HOME
20 REM A ROGERIAN INPUT
30 PRINT "IN ONE WORD, HOW WOULD YOU"
40 PRINT "DESCRIBE HOW YOU ARE FEELING"
50 PRINT "RIGHT NOW?"
60 INPUT A$
70 PRINT
80 PRINT "YOU SEEM TO BE FEELING ";A$;" TODAY."
90 END
```

3. Type: RUN
4. Respond to the question; then press [RETURN].

THE LET AND INPUT STATEMENTS: A PRACTICAL APPLICATION

Type NEW, then type in the following program:

```
10 TEXT:HOME
20 REM PROGRAM TO CALCULATE GPA
30 PRINT "A=4, B=3, C=2, D=1, E=0"
40 PRINT "ENTER GRADE VALUE FOR ENGLISH"
50 INPUT A
60 PRINT "ENTER CREDIT HOURS FOR ENGLISH"
70 INPUT B
80 PRINT "ENTER GRADE VALUE FOR SCIENCE"
90 INPUT C
100 PRINT "ENTER CREDIT HOURS FOR SCIENCE"
110 INPUT D
120 PRINT "ENTER GRADE VALUE FOR MATH"
130 INPUT E
140 PRINT "ENTER CREDIT HOURS FOR MATH"
150 INPUT F
160 LET G = A * B
170 LET H = C * D
180 LET J = E * F
190 LET K = G + H + J
200 LET L = B + D + F
210 PRINT:PRINT
220 PRINT "STUDENT'S GPA IS  ";K/L
230 END
```

Type RUN; then enter data as requested.

After you have RUN your program successfully, type:

SAVE GPA

Then LOAD and LIST the programs on your disk.

Appendix C

ERIC Computer Search

DIALOG File 1: ERIC - 66-85/DEC

EJ322475 IR514433
An Educational Approach to Designing Computer-Based Career Guidance Systems.
Wooler, Stuart; Wisudha, Ayleen
British Journal of Educational Technology, v16 n2 p135-45 May 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); POSITION PAPER (120); PROJECT DESCRIPTION (141)
Journal Announcement: CIJDEC85
Seeks to show why computer-based career guidance systems need to take on the educational role of helping people develop appropriate and effective ways of thinking about their career problems, rather than simply matching people with occupational databases. A computer program called SELSTRA, which seeks to meet these needs, is described. (Author/MBR)
Descriptors: Career Counseling; *Career Guidance; *Computer Oriented Programs; *Computer Software; Decision Making; Design; *Educational Needs; Values
Identifiers: *Computer Based Career Guidance

EJ322027 CG528937
Artificial Intelligence: Implications for the Future of Counseling.
Sharf, Richard S.
Journal of Counseling & Development, v64 n1 p34-37 Sep 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); POSITION PAPER (120)
Journal Announcement: CIJDEC85
Target Audience: Counselors; Practitioners
The ability of computers to understand phrases and sentences has implications for future trends in counseling. Examples of computer-person interaction are given. (Author)
Descriptors: *Artificial Intelligence; *Career Counseling; *Computer Assisted Instruction; Computer Software; *Language Processing
Identifiers: *Computer Assisted Career Guidance

EJ322026 CG528936
Computer Preparation Standards for Counselors and Human Development Specialists.
Sampson, James P., Jr.; Loesch, Larry C.
Journal of Counseling & Development, v64 n1 p31-33 Sep 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); POSITION PAPER (120)
Journal Announcement: CIJDEC85
This article presents possible modifications of the American Association for Counseling and Development standards of preparation. Incorporation of computer preparation standards for counseling and human development professionals is suggested. (Author)
Descriptors: *Computer Literacy; Counselor Certification; *Counselor Qualifications; *Counselors; *Counselor Training; *Standards
Identifiers: *Am Assn for Counseling and Development

EJ321978 CG528888
Microcomputer-Assisted Career Exploration.
Johnson, Richard G.
Vocational Guidance Quarterly, v33 n4 p296-304 Jun 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); RESEARCH REPORT (143)
Journal Announcement: CIJDEC85
Target Audience: Counselors; Practitioners
High school students (N=44) participated in traditional and computer-assisted career exploration. Results indicated no differences in career exploratory behaviors or options selected. Students did, however, favor the computer-assisted treatment. No sex differences were found. (BL)
Descriptors: *Adolescents; *Career Counseling; *Career Exploration; *Microcomputers; Secondary Education; Sex Differences; Teaching Methods; *Vocational Interests
Identifiers: *Computer Assisted Career Guidance

EJ319546 CG528532
Computer Applications in Counseling: Some Practical Suggestions.
Alpert, Dona; And Others
Journal of Counseling & Development, v63 n8 p522-23 Apr 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJOCT85
Discusses the ways in which training, supervision, and the practice of counseling can all be enhanced with computer technology. (Author)
Descriptors: *Computer Oriented Programs; *Counseling
Identifiers: *Computer Assisted Counseling

EJ318087 CG528447
Computerized Career Guidance and Information Systems: Guidelines for Selection.
Heppner, Mary J.; Johnston, Joe A.
Journal of College Student Personnel, v26 n2 p156-63 Mar 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); NON-CLASSROOM MATERIAL (055)
Journal Announcement: CIJSEP85
Provides criteria for comparing computerized career guidance and information systems, including SIGI, DISCOVER II, C-LECT,
(cont. next page)

DIALOG File 1: ERIC - 66-85/DEC

CHOICES, MicroSKILLS, GIS, and Career/College Scan. (Author/BH)
Descriptors: *Career Guidance; *Computer Software; *Evaluation Criteria; Selection
Identifiers: *Computer Assisted Guidance

EJ317993 CG528353
Effects of Microcomputer Training on Performance and Attitudes of Rehabilitation Counseling Students.
O'Toole, William M.; Wagner, William G.
Rehabilitation Counseling Bulletin, v28 n3 p175-78 Mar 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); RESEARCH REPORT (143)
Journal Announcement: CIJSEP85
Investigated three methods of teaching word-processing skills to rehabilitation counseling students (N=26). Students trained with a "manual plus demonstration" performed significantly better than a "manual only" or a "manual plus lecture" group. Student attitude toward computer technology improved regardless of the training method used. (BH)
Descriptors: *College Students; Counselor Training; Higher Education; *Microcomputers; *Outcomes of Education; *Rehabilitation Counseling; *Student Attitudes; *Training Methods; Word Processing

EJ314198 JC503801
Missing: Prototype Vocational Guidance System.
Weltin, Mary M.; Johnson, Richard M.
Community and Junior College Journal, v55 n5 p18-20 Feb 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJJUN85
Describes Army research in recruitment and vocational counseling. Discusses the Joint Optical Information Network, which offers career opportunity information, and the Army Research Institute's investigations of vocational counseling for high school and community college students and its prototype vocational guidance system. Encourages community colleges to serve as research sites. (DMM)
Descriptors: *Career Guidance; Community Colleges; *Computer Oriented Programs; Information Systems; *Military Personnel; *Occupational Information; Recruitment; Two Year College Students

EJ313394 CG527906
Computers in Counselor Training.
Phillips, Susan D., Ed.
Counselor Education and Supervision, v24 n2 p133-221 Dec 1984 Special issue on the use of computers in counseling education.
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); REVIEW LITERATURE (070)
Journal Announcement: CIJJUN85
These nine articles explore the current status and potential contributions of computer technology in counselor training. Articles deal with computer resources and terminology, training applications, issues and limitations, evaluation and research. Also discusses the use of Client 1 and PILOT. (JAC)
Descriptors: *Computer Assisted Instruction; *Computers; Counselors; *Counselor Training; Ethics; Feedback; Higher Education; Outcomes of Education; State of the Art Reviews
Identifiers: *Computer Assisted Counseling

EJ313295 CG527807
The Personalized Spouse Observation Checklist: A Computer-Generated Assessment of Marital Interaction.
Atkinson, Brent J.; McKenzie, Paul N.
Journal of Marital and Family Therapy, v10 n4 p427-29 Oct 1984
Language: English
Document Type: JOURNAL ARTICLE (080)
Journal Announcement: CIJJUN85
Describes the development of a personalized version of the Spouse Observation Checklist (SOC), using computer word processing functions to delete neutral and irrelevant items. Comparison of the original and revised checklists with 22 married individuals indicated no significant differences between dependent variables on the two versions. (JAC)
Descriptors: Check Lists; *Computer Oriented Programs; *Interaction; *Marriage Counseling; *Measurement Techniques; Spouses; Test Construction
Identifiers: *Spouse Observation Checklist

EJ312062 HE518954
Orienting New Students to Computerized Registration: Providing Opportunities for Academic Advising.
Brewer, Cary R.; Roller, Judi M.
College and University, v60 n2 p180-84 Win 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJMAY85
Target Audience: Administrators; Practitioners
Bowling Green's four-week summer preregistration program providing students with opportunities for individualized academic counseling and computerized preregistration is described, along with a fall follow-up for additional advising and suggestions for handling computerized registration. (MSE)
Descriptors: *Academic Advising; *Computer Oriented Programs; *Counseling Services; Higher Education; Program Descriptions; *School Orientation; *School Registration; Summer Programs

(cont. next page)

DIALOG File 1: ERIC - 66-85/DEC

Identifiers: Bowling Green State University OH

EJ311314 CG527772
Interactive Video: A Promising Technology for Counseling Services.
Baron, Augustine, Jr.; Hutchinson, Joel
Journal of Counseling & Development, v63 n4 p244-47 Dec 1984
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); GENERAL REPORT (140)
Journal Announcement: CIJMAY85
Describes the mechanical components of interactive video and details the steps toward constructing self-paced counseling modules based on this technology. Includes a discussion of ethical and practical consideratons. (LLL)
Descriptors: *Computer Assisted Instruction; *Counseling Techniques
Identifiers: *Computer Assisted Counseling; *Interactive Video

EJ311278 CG527736
Poetry, Computers, and Positive Mental Health.
Gladding, Samuel T.
American Mental Health Counselors Association Journal, v7 n1 p4-10 Jan 1985
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); GENERAL REPORT (140)
Journal Announcement: CIJMAY85
Describes the benefits of combining poetic expression with computers in promoting positive mental health. Discuses prescriptive poetry, composition, computerized poetic exercises, computers and poetry for groups and families, computerized poetic records, and poetic communication. (JAC)
Descriptors: *Computer Oriented Programs; *Counseling Techniques; *Poetry
Identifiers: *Computer Assisted Counseling

EJ311219 CG527677
Computers in Counseling and Development.
Ekstrom, Ruth, Ed.; Johnson, Cynthia, Ed.
Journal of Counseling & Development, v63 n3 p132-96 Nov 1984
The 16 articles in this special issue were written by H. B. Gelatt, Garry Walz, Marilyn Haring-Hidore, K. Richard Pyle, JoAnn Harris-Bowlsbey, Bruce McKinlay, Martin Katz, Marilyn Maze, Barbara Gelesko McKee, James Long, Morton Wagman, Susan Wood, Robert Reardon, L. Russell Watjen, James P. Sampson, and Edwin L. Herr.
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); REVIEW LITERATURE (070); PROJECT DESCRIPTION (141)
Journal Announcement: CIJMAY85
The four sections of this special issue examine the relationship between counselors and the computer; discuss the delivery of career information and guidance by computer; describe other uses such as testing, student services, personal counseling and software applications; and discuss improving computer applications. (JAC)
Descriptors: Career Counseling; Career Development; Computer Assisted Testing; Computer Literacy; *Computer Oriented Programs; Computer Software; *Counseling Techniques; *Counselor Role; Elementary Secondary Education; Hearing Impairments; Higher Education; Microcomputers; Student Personnel Services
Identifiers: *Computer Assisted Counseling; *Computer Assisted Guidance

EJ306417 CG527205
Computer-Assisted Instruction in Rehabilitation Education.
Crimando, William; Baker, Richard
Rehabilitation Counseling Bulletin, v28 n1 p50-54 Sep 1984
Available from: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); RESEARCH REPORT (143)
Journal Announcement: CIJFEB85
Investigated the use of computer assisted instruction in training rehabilitation students (N=30) in writing evaluation reports. Results showed students who learned the concepts of report writing with a computer based tutorial performed significantly better on a test than students who received a lecture on the material. (JAC)
Descriptors: *Computer Assisted Instruction; *Counselor Training; Graduate Students; Higher Education; *Rehabilitation Counseling; Technical Writing

EJ304506 IR512970
Computers Help Students Make Wise Career Decisions.
Gerardi, Robert J.; And Others
Instructional Innovator, v29 n3 p16-17,48 Mar 1984
Available from: UMI
Language: English
Document Type: PROJECT DESCRIPTION (141)
Journal Announcement: CIJDEC84
Target Audience: Counselors; Practitioners
Discusses advantages and disadvantages of utilizing computer information systems in making career and educational alternatives decisions, describes three types of computer-based guidance systems currently available, and describes three direct inquiry systems with monitoring--Educational and Career Exploration System, System of Interactive Guidance and Information, and Wisconsin Career Information System. (MBR)
Descriptors: *Career Guidance; College Choice; *Computer Oriented Programs; Decision Making; *Guidance Programs; Information Services; Microcomputers; *Program Descriptions; Secondary Education
Identifiers: Educational and Career Exploration System; System of Interactive Guidance and Information; Wisconsin

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DIALOG File 1: ERIC - 66-85/DEC

Career Information System
EJ302769 EA517906
You Can Use Computers to Expand Kids' Career Horizons.
Executive Educator, v6 n7 p25 Jul 1984
Available from: UMI
Language: English
Document Type: REVIEW LITERATURE (070)
Journal Announcement: CIJNOV84
Target Audience: Counselors; Policymakers; Practitioners
Batch-process, online career information, and online career guidance systems are computer-based career information systems that can provide current information on jobs, as well as match students with careers or educational courses. (KS)
Descriptors: Career Awareness; *Career Counseling; *Computers; Guidance Personnel; Guidance Programs; Higher Education; *Information Systems; Occupations; *Post High School Guidance; Secondary Education

EJ302306 CE514690
"Helpware": Latest Volley in the Computer Revolution.
Zemke, Ron
Training, v21 n8 p42-44,46-47,49,51-52 Aug 1984
Available from: UMI
Language: English
Document Type: POSITION PAPER (120)
Journal Announcement: CIJNOV84
New types of computer software--helpware--are being developed. One category is psychological, purporting to provide counseling, self-assessment, and treatment for personal problems. Another category has management applications: decision making, personnel selection and management, and problem solving. (SK)
Descriptors: *Computer Oriented Programs; *Computer Software; *Counseling; *Decision Making; Management Development; *Personnel Selection; Psychological Testing; *Self Evaluation (Individuals); Technological Advancement

EJ299232 CG526209
The Effectiveness of a Computerized Guidance System in Promoting Career Decision Making.
Pinder, Flora Ann; Fitzgerald, Paul W.
Journal of Vocational Behavior, v24 n1 p123-31 Feb 1984
Language: English
Document Type: RESEARCH REPORT (143)
Journal Announcement: CIJSEP84
Examined the effectiveness of CHOICES (Computerized Heuristic Occupational Information and Career Exploration System) in promoting career decision making in college students (N=136). Results indicated that computerized guidance systems such as CHOICES are viable counseling interventions that can assist in meeting the career development needs of students. (LLL)
Descriptors: Career Awareness; *Career Counseling; Career Planning; College Students; *Computer Oriented Programs; Higher Education; School Guidance
Identifiers: *CHOICES (Program); Computer Assisted Counseling

EJ297697 CG525952
Counselor Training via Computer.
Phillips, Susan D.
Counselor Education and Supervision, v23 n1 p20-28 Sep 1983
Available from: UMI
Language: English
Document Type: REVIEW LITERATURE (070)
Journal Announcement: CIJAUG84
Suggests that the computer may have applications in counselor training. Outlines the capacities and characteristics currently available in computer technology as they relate to the tasks and methods of counselor education and reviews available computer system models and limitations in terms of implications for use in training efforts. (JAC)
Descriptors: *Computer Assisted Instruction; *Counselor Training; *Educational Trends; Models

EJ296494 CG525828
Microcomputer Assisted Guidance Scheduling for Career Information Programs.
Hoskins, Robert G.; Rosenthal, Nina Ribak
Vocational Guidance Quarterly, v32 n2 p122-24 Dec 1983
Available from: UMI
Language: English
Document Type: PROJECT DESCRIPTION (141)
Journal Announcement: CIJJUL84
Describes the use of a microcomputer to schedule students into a series of small group career exploration sessions. Use of the computer greatly simplified the process, and all students were able to obtain their first or second choice options. (JAC)
Descriptors: Career Exploration; *Career Guidance; *Computer Oriented Programs; High Schools; *High School Students; Microcomputers; Program Descriptions; *Scheduling

EJ296217 TM508719
The Impact of Computers on Career Guidance and Assessment.
Harris-Bowlsbey, Jo Ann
New Directions for Testing and Measurement, n20 p63-76 Dec 1983 Theme issue with title "Measurement Trends in Career and Vocational Education," edited by Ronald C. Rodgers.
Available from: UMI
Language: English
Document Type: REVIEW LITERATURE (070)
Journal Announcement: CIJJUN84
Summarizing the impact of computers and technology on vocational assessment and counseling practices, this discussion focuses on software created for computers of all sizes specifically to help students and adults enhance their
(cont. next page)

DIALOG File 1: ERIC - 66-85/DEC

career decision making. (PN)
Descriptors: Career Choice; Career Counseling; *Career Guidance; *Computer Programs; *Computers; Decision Making; Educational Technology; *Information Systems; Models

EJ294515 CG525675
Computer-Assisted Counseling.
Myers, Roger A.; Cairo, Peter C., Ed.
Counseling Psychologist, v11 n4 p9-74 1983 Special section on computer assisted counseling.
Available from: UMI
Language: English
Document Type: REVIEW LITERATURE (070)
Journal Announcement: CIJJUN84
Presents a state of the art view of computer assisted counseling in seven articles dealing with career counseling, decision making, counseling techniques, information storage, and models of computer applications in counseling. Related developments in Great Britain are also discussed. (JAC)
Descriptors: *Career Counseling; *Computer Oriented Programs ; Counseling Effectiveness; *Counseling Techniques; Counselors ; Decision Making; Information Storage; Models; State of the Art Reviews
Identifiers: *Computer Assisted Counseling

EJ291135 CG525369
Career Key: A Career Library Management System.
Smith, Eileen
Vocational Guidance Quarterly, v32 n1 p52-56 Sep 1983
Available from: UMI
Language: English
Document Type: PROJECT DESCRIPTION (141)
Journal Announcement: CIJAPR84
Describes a project undertaken at Florida State University to index the contents of its career library on a microcomputer. The Career Key provides easy access to materials and promotes information-seeking skills as a strategy for solving decision-making problems. (JAC)
Descriptors: Career Development; *Career Guidance; College Students; *Computer Oriented Programs; Higher Education; *Library Catalogs; Microcomputers; Models; *Occupational Information; Program Descriptions; Self Help Programs
Identifiers: *Career Key; *Computer Assisted Counseling

EJ291095 CG525329
Special Issue on Computers.
Rotter, Joseph C., Ed.
Elementary School Guidance and Counseling, v18 n1 p5-63 Oct 1983 Theme issue on computers.
Available from: UMI
Language: English
Document Type: REVIEW LITERATURE (070)
Journal Announcement: CIJAPR84
Discusses the use of computers in the classroom and as tools for school counselors. The 11 articles of this special issue deal with counselor computer competencies, computer literacy, the influence of computer games, microcomputer programs for guidance and counseling, accountability, and staff training. (JAC)
Descriptors: Accountability; *Computer Literacy; *Computer Oriented Programs; Computer Programs; *Counselor Role; Educational Innovation; Elementary Education; Microcomputers; Psychoeducational Methods; *School Counselors; Staff Development; State of the Art Reviews
Identifiers: *Computer Assisted Counseling; *Computer Games Information Analysis

EJ289306 CG525135
The Eureka--A Tool for Career Counseling.
Gow, Robert F.
Journal of Employment Counseling, v20 n2 p70-72 Jun 1983
Available from: UMI
Language: English
Document Type: PROJECT DESCRIPTION (141)
Journal Announcement: CIJMAR84
Discusses the use of the Eureka, a computerized library of occupational and educational information, for those seeking employment during the current economic trends affecting the labor market. The Eureka offers direction and current reliable information about the labor market in a short period of time. (JAC)
Descriptors: Career Change; *Career Counseling; *Computer Oriented Programs; *Counseling Techniques; Job Applicants; Midlife Transitions; Models; *Occupational Information; Program Descriptions

EJ288416 IR511718
The Electronic Counselor.
Shatkin, Laurence
Electronic Learning, v3 n1 p75-81 Sep 1983
Language: English
Journal Announcement: CIJFEB84
Investigates Computer Assisted Guidance (CAG), systems providing occupational/career guidance, in terms of student and guidance needs, validity, currency, and costs. The CAG program at a Miami, Florida, high school is described, and a chart comparing 30 CAG programs is provided. (MBR)
Descriptors: *Career Guidance; Comparative Analysis; *Computer Programs; Computers; Costs; High Schools; Microcomputers; *Online Systems
Identifiers: *Computer Assisted Guidance; Software Reviews

EJ282478 CG524440
Preparing Rehabilitation Leaders for the Computer Age.
Nave, Gary; Browning, Philip
Rehabilitation Counseling Bulletin, v26 n5 p364-67 May 1983
(cont. next page)

DIALOG File 1: ERIC - 66-85/DEC

Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); TEACHING GUIDE (052)
Journal Announcement: CIJOCT83
Introduces a computer curriculum designed specifically for a rehabilitation graduate program. Encourages rehabilitation educators to take a major role in preparing future leaders to work with this technology. Describes a curriculum consisting of two courses: a rehabilitation computing overview course and a research data processing course. (Author/JAC)
Descriptors: *Computer Literacy; Computer Oriented Programs *Computer Science Education; *Counselor Training; Course Descriptions; Curriculum Design; Graduate Students; Higher Education; *Physical Disabilities; *Vocational Rehabilitation

EJ280661 CG524218
Technology and Work: Future Issues for Career Guidance.
Cianni-Surridge, Mary
Personnel and Guidance Journal, v61 n7 p413-16 Mar 1983
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); REVIEW LITERATURE (070)
Journal Announcement: CIJSEP83
Examines the growing combination of communications technology and computer technology and the impact these advances have made on our personal and vocational lives. Focuses on possible consequences for career guidance professionals, who must become better equipped to explore future trends and help workers adjust to new roles. (Author/JAC)
Descriptors: *Career Guidance; *Communications; *Counselor Role; Counselors; Education Work Relationship; *Employment Patterns; *Microcomputers; Social Change; State of the Art Reviews; Technical Occupations

EJ279190 CG524139
Type-A Personality and Stress Reduction Training Based on Transpersonal Psychology with Biofeedback and Computers.
Cassel, Russell N.; Sumantardja, Elmira N.
Psychology: A Quarterly Journal of Human Behavior, v19 n4 p1-6 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); REVIEW LITERATURE (070)
Journal Announcement: CIJAUG83
Describes Type-A personality as the result of mad pursuit for excellence, characteristic in Western Culture. Relaxation training and stress reduction in management, combined with careful ordering of priorities for single goal attainment, results in Type-C personalities, which implies the development of coping skills for achieving goals. (Author/JAC)
Descriptors: Achievement Need; Adults; *Biofeedback; *Computer Oriented Programs; *Coping; *Counseling Techniques; Physiology; Psychological Characteristics; State of the Art Reviews; *Stress Variables
Identifiers: *Stress Reduction Training; *Type A Behavior

EJ275983 CG523938
Computer-Assisted Testing and Assessment: Current Status and Implications for the Future.
Sampson, James P., Jr.
Measurement and Evaluation in Guidance, v15 n4 p293-99 Jan 1983
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); REVIEW LITERATURE (070)
Journal Announcement: CIJJUN83
Provides rationale for computer-assisted testing and assessment, describes systems currently in use, and examines potential benefits, potential problems, and future implications. Suggests that computer-assisted testing and assessment has potential to either enhance services and resources or to generate problems and confusion for clients and counselors. (PAS)
Descriptors: *Computer Assisted Testing; Computer Science; Cost Effectiveness; *Counselor Client Relationship; Elementary Secondary Education; *Ethics; Higher Education; *Long Range Planning; *Test Construction; *Test Validity

EJ275925 CG523880
Cassel Psych Center Computerized Biofeedback Clinic.
Cassel, Russell N.
Psychology: A Quarterly Journal of Human Behavior, v9 n4 p24-27 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJJUN83
Describes Cassel Psych Center, a computerized biofeedback clinic, where the "well" patient is a major concern, and where biofeedback instruments are used with computers to form a Computerized-Biofeedback Clinical Support System. The Center's activities are designed to parallel the services of the pathologist in a medical setting. (PAS)
Descriptors: Adolescents; *Biofeedback; *Computer Assisted Instruction; *Counseling Services; Diagnostic Tests; Gifted; *Medical Services; *Patients; *Psychological Evaluation

EJ275917 CG523872
Ethical Issues Involved with the Use of Computer-Assisted Counseling, Testing, and Guidance Systems.
Sampson, James P.; Pyle, K. Richard
Personnel and Guidance Journal, v61 n5 p283-87 Jan 1983
(cont. next page)

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DIALOG File 1: ERIC - 66-85/DEC

Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); NON-CLASSROOM MATERIAL (055)
Journal Announcement: CIJJUN83
Discusses the growing use of computers in counseling, testing, and guidance. Examines potential ethical problems focusing on confidentiality of client data and the use of computer-assisted testing. Outlines principles for ethical use of computer applications emphasizing the need for counselor intervention. (Author/RC)
Descriptors: Career Guidance; *Computer Assisted Testing; *Computer Oriented Programs; *Confidentiality; *Counseling Services; *Ethics; *Guidance Programs; Occupational Information; Telecommunications

EJ272856 HE516410
Inside the Chart Review.
Curtis, Peter; And Others
Journal of Medical Education, v57 n11 p841-47 Nov 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJAPR83
A family practice center study analyzed the content of teaching occurring in 276 face-to-face chart review sessions by microcomputer to compile reports of problem types encountered by residents, pertinent discussion topics, and related learning needs. Results can be used in curriculum, program, and faculty development. (Author/MSE)
Descriptors: Clinics; *Computer Oriented Programs; Curriculum Development; Faculty Development; Family Practice (Medicine); *Graduate Medical Education; Higher Education; *Medical Case Histories; *Microcomputers; Program Development Student Teacher Relationship; *Teacher Guidance; Teaching Methods
Identifiers: University of North Carolina

EJ268813 RC504829
Changes from CHOICES.
Sloan, Bill; Laird, David
Education Canada, v22 n3 p22-25 Fall 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJJAN83
Introducing CHOICES, a computer-assisted guidance counseling service, in British Columbia changed the counselor's image, role, qualifications, and training and brought counselors closer to helping implement a career education program that embraced the total school curriculum in which teachers relate what is being taught to the careers students may choose. (Author/NQA)
Descriptors: *Career Guidance; *Computer Oriented Programs; Counselor Qualifications; Counselor Role; *Counselor Teacher Cooperation; *Counselor Training; *Educational Change; High Schools
Identifiers: *British Columbia; *Computer Assisted Counseling

EJ268812 RC504828
CHOICES: The Nova Scotia Experience.
Feron, Donald J.
Education Canada, v22 n3 p18-21 Fall 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJJAN83
In 1979 Nova Scotia field-tested CHOICES, a computerized career information service. Reactions of counselors, students, and parents were very positive. By early 1982, 43 of 100 senior high schools were using CHOICES. By September 1982 the service will extend to all high school students in Nova Scotia. (NQA)
Descriptors: *Career Guidance; *Computer Oriented Programs; *Counseling Techniques; *High School Students; High Schools; *Microcomputers
Identifiers: *Computer Assisted Counseling; *Nova Scotia

EJ263408 IR510040
Computerized Systems of Career Information and Guidance: A State-of-the-Art.
Jacobson, Marilyn D.; Grabowski, Barbara T.
Journal of Educational Technology Systems, v10 n3 p235-55 198 1981
Language: English
Document Type: JOURNAL ARTICLE (080); REVIEW LITERATURE (070); EVALUATIVE REPORT (142)
Journal Announcement: CIJSEP82
Describes three categories of computer-based information systems for career guidance (batch process, online information retrieval, and online career guidance), addresses the issue of effectiveness, and discusses the approach to system selection used for the Illinois Career Information Delivery System (CIDS) Feasibility Study. Thirty-one references are listed. (MER)
Descriptors: *Career Guidance; *Computer Oriented Programs; Evaluation Methods; Feasibility Studies; *Information Retrieval; *Information Systems; *Online Systems
Identifiers: *Illinois Career Information Delivery System

DIALOG File 1: ERIC - 66-85/DEC

EJ262949 CG522551
Technology in Career Planning and Placement.
Bruce, Robert C.; And Others
Journal of College Placement, v42 n4 p35-38 Sum 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJSEP82
Describes the use of the System of Interactive Guidance and Information to help students explore career options. Suggests with the help of the computer and a career counselor, students can recognize and develop viable career objectives and plan a successful job search program. (JAC)
Descriptors: Career Counseling; *Career Planning; College Students; *Computer Oriented Programs; *Counseling Techniques Higher Education; *Job Placement; *Job Search Methods; Program Descriptions; Student Personnel Services
Identifiers: *System of Interactive Guidance and Information

EJ256162 CG521941
The Impact of Computers on Education: An Overview for Counselors.
Wilton, Jo Ann
School Guidance Worker, v37 n3 p14-17 Jan-Feb 1982
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); REVIEW LITERATURE (070)
Journal Announcement: CIJMAY82
Highlights several aspects of the role computer technology will play in education and counseling. Discusses administrative uses of computers including the management of attendance and school records. Considers the issue of counselor computer literacy. Also discusses the influence of computers on curriculum, and changing roles of teachers and counselors. (RC)
Descriptors: Career Counseling; *Computer Oriented Programs *Computers; Counseling; *Counselor Role; Counselors; *Educational Change; *Educational Trends; Elementary Secondary Education; Foreign Countries; Futures (of Society); Information Processing; State of the Art Reviews; Teacher Role
Identifiers: *Canada

EJ253516 CG521521
A Computer-Assisted Method of Counseling.
Parente, Frederick J.; And Others
American Mental Health Counselors Association Journal, v3 n2 p62-71 Jul 1981
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); RESEARCH REPORT (143); PROJECT DESCRIPTION (141)
Journal Announcement: CIJMAR82
A computer-assisted method of counseling was applied to cases of stuttering and hypertension. Although both symptom complexes had previously resisted therapy, results indicated that computer-assisted counseling eliminated the stuttering and reduced diastolic blood pressure to normal levels. (Author)
Descriptors: Case Studies; *Computer Oriented Programs; *Counseling Techniques; Factor Analysis; *Hypertension; Program Descriptions; Program Evaluation; *Stuttering

EJ249652 CG521056
Clinical Judgment versus the Computer: Can the School Psychologist Be Replaced by a Machine?
Altemose, J. R.; Williamson, K. B.
Psychology in the Schools, v18 n3 p356-63 Jul 1981
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); GENERAL REPORT (140)
Journal Announcement: CIJDEC81
Examines the role of the computer in administering, scoring, and interpreting psychoeducational tests. Both the intelligent computer model and the computer-as-assistant model are analyzed to determine what threat they may pose to the job security of school psychologists. (Author)
Descriptors: *Computer Assisted Testing; Counseling Techniques; *Counselor Role; *Educational Diagnosis; Elementary Secondary Education; Employment Patterns; Job Layoff; *Psychoeducational Methods; Pupil Personnel Services; *School Psychologists; Security (Psychology)

EJ248159 CE511154
Computer-Assisted Career Guidance for Adults.
Rayman, Jack R.
New Directions for Continuing Education, n10 p85-94 1981
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJNOV81
Describes current and potential uses of computers in adult guidance and counseling. Topics include career development theory as it applies to adult learners, the computer as a delivery system, content of the DISCOVER College/Adult system, and a discussion of how the DISCOVER system works. (CT)
Descriptors: *Adult Learning; *Career Development; *Career Guidance; *Computer Oriented Programs; *Counseling Services; *Delivery Systems; Online Systems
Identifiers: *DISCOVER System

EJ248158 CE511153
Current and Future Delivery Systems for Adult Career Guidance.
Arbeiter, Solomon

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DIALOG INFORMATION SERVICES, INC

DIALOG File 1: ERIC - 66-85/DEC

New Directions for Continuing Education, n10 p77-83 1981
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141); EVALUATIVE REPORT (142)
Journal Announcement: CIJNOV81
The author examines current career counseling services for adults and explores further possibilities utilizing computers and view screens. Programs discussed include CETA counseling, educational brokering, and career education delivery systems. He also describes a typical assessment process. (Editor/CT)
Descriptors: *Career Counseling; Career Education; *Computer Oriented Programs; *Counseling Services; *Delivery Systems; Self Evaluation (Individuals)
Identifiers: Comprehensive Employment and Training Act; Educational Brokerage

EJ244965 TM506073
Computer-Assisted Instruction Augmented with Planned Teacher/Student Contacts.
Tsai, San-Yun W.; Pohl, Norval F.
Journal of Experimental Education, v49 n2 p120-26 Win 1980
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); RESEARCH REPORT (143)
Journal Announcement: CIJAUG81
Differences in student learning achievement and retention in a college statistics course taught in various teaching/learning environments are described. Students experiencing computer-aided instruction accompanied by planned teacher/student contacts performed significantly better than students experiencing any of several other environments. (Author/GK)
Descriptors: *Academic Achievement; *Computer Assisted Instruction; Conventional Instruction; Higher Education; Programed Instruction; *Retention (Psychology); Statistics; *Teacher Guidance

EJ242441 EA514135
Differential Impacts of a Computer Information System on Selected Human Service Agencies.
Ryan, Charles W.; Drummond, Robert J.
AEDS Journal, v14 n2 p73-83 Win 1981
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); RESEARCH REPORT (143)
Journal Announcement: CIJJUL81
Although most users respond favorably to computerized career information systems, staff in human services agencies are sometimes resistant to the systems. (JM)
Descriptors: Administrative Problems; Career Awareness; Career Choice; *Career Guidance; *Computer Oriented Programs; Counselor Attitudes; Decision Making; Human Services; Program Attitudes; *Social Agencies
Identifiers: Guidance Information System

EJ239984 CG520101
Guidance Information System: An Analysis of Impact on School Counseling.
Ryan, Charles W.; And Others
School Counselor, v28 n2 p93-97 Nov 1980
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141); EVALUATIVE REPORT (142)
Journal Announcement: CIJJUN81
The Maine Occupational Information Coordinating Committee field-tested the Guidance Information System. Students showed an increase in career awareness and information-gathering activities. Counselors became stimulated to do more reading and studying in the career guidance area. (Author)
Descriptors: *Career Guidance; *Computer Oriented Programs; *Counseling Techniques; Field Tests; Program Descriptions; *Program Effectiveness; Program Evaluation; *School Counseling; School Counselors; Secondary Education; Student Educational Objectives
Identifiers: *Guidance Information System

EJ224950 CG518681
PLATO DCS, an Interactive Computer System for Personal Counseling: Further Development and Evaluation.
Wagman, Morton; Kerber, Kenneth W.
Journal of Counseling Psychology, v27 n1 p31-39 Jan 1980
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141); RESEARCH REPORT (143)
Journal Announcement: CIJNOV80
The PLATO computer-based Dilemma Counseling System teaches a generic method for solving life-choice problems and counsels persons regarding current psychological dilemmas. The solution components contain 69 representative life-choice problems and 400 specific and general solutions to assist users in solving psychological dilemmas. (Author)
Descriptors: Career Choice; College Students; *Computer Assisted Instruction; *Counseling Techniques; *Man Machine Systems; *Problem Solving; Program Development; *Program Evaluation
Identifiers: *Computer Assisted Counseling; *PLATO DCS

EJ224949 CG518680
PLATO DCS: An Interactive Computer System for Personal Counseling.
Wagman, Morton
Journal of Counseling Psychology, v27 n1 p16-30 Jan 1980
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); RESEARCH REPORT (143);
(cont. next page)

DIALOG File 1: ERIC - 66-85/DEC

PROJECT DESCRIPTION (141)
Journal Announcement: CIJNOV80
An experimental test of the self-paced interactive PLATO computer-based Dilemma Counseling System (PLATO DCS) was conducted. PLATO DCS counseling resulted in greater improvement in clients than did counseling in controlled conditions. Subjects rated the PLATO DCS as interesting and not too impersonal. (Author)
Descriptors: *Autoinstructional Aids; College Students; *Computer Assisted Instruction; *Counseling Techniques; Counselor Client Relationship; Evaluation; *Man Machine Systems; *Problem Solving
Identifiers: *Computer Assisted Counseling; *PLATO DCS

EJ221187 CG518122
Issues and Problems Related to Linkages between Interest Measures and Computerized Counselling Information Systems.
Hendricks, Ronald W.; Catania, Josefina J.
School Guidance Worker, v35 n4 p23-27 Mar 1980
Language: English
Document Type: JOURNAL ARTICLE (080); REVIEW LITERATURE (070)
Journal Announcement: CIJSEP80
If interest variables are used to provide access to vocational information system, the validity of decision-making strategies and outcome is dependent upon: (1) validity of the interest inventory used; (2) validity of the occupational/vocational data base; and (3) nature of linkages between interest variables and system. (Author)
Descriptors: *Career Counseling; *Computer Oriented Programs; *Delivery Systems; Elementary Secondary Education; Foreign Countries; *Information Systems; *Interest Inventories; Measures (Individuals); Students; *Vocational Interests
Identifiers: *Canada

EJ221162 CG518097
Computerized Career Information Systems on the College Campus: A Low-Cost, Do-It-Yourself Approach.
Schenk, George E.; And Others
Personnel and Guidance Journal, v58 n8 p516-20 Apr 1980
Available from: Reprint: UMI
Language: English
Document Type: JOURNAL ARTICLE (080); PROJECT DESCRIPTION (141)
Journal Announcement: CIJSEP80
Describes an economically feasible approach to designing computerized systems. The actual design and development of such a system on the campus of Virginia Tech University is outlined. (Author)
Descriptors: *Career Counseling; College Students; Computer Assisted Instruction; *Computer Oriented Programs; Counselors *Guidance; Higher Education; *Information Systems; *Program Development
Identifiers: *Virginia Polytechnic Inst and State Univ

DIALOG File 1: ERIC - 66-85/DEC

ED259772 JC850404
Miami-Dade Community College 1984 Institutional Self-Study. Volume IV: Student Information and Performance Standards (Advisement and Graduation Information System, Academic Alert, Standards of Academic Progress).
Miami-Dade Community Coll., Fla.
[Apr 1985 115p.; For other volumes, see JC 850 401-408.
EDRS Price - MF01/PC05 Plus Postage.
Language: English
Document Type: EVALUATIVE REPORT (142)
Geographic Source: U.S.; Florida
Journal Announcement: RIEDEC85
Part of a systematic, in-depth assessment of Miami-Dade Community College's (MDCC's) educational programs, student support systems, and selected campus-level activities, this volume of the college's institutional self-study report examines the impact and effectiveness of student information systems and performance standards. This report presents results of evaluative research on MDCC's three computerized systems designed to increase effectiveness in student academic support. First, an introduction to MDCC's student information and academic performance reforms is provided, including an overview of the Advisement and Graduation Information System (AGIS), the Academic Alert, and the Standards of Academic Progress (SOAP). This section offers a discussion of the stages of development of each of the systems, their current scope, and evaluation needs. A section on methodology and a review of general findings are followed by evaluation results for each system. Finally, a summary section presents collective findings and conclusions, including: (1) faculty need more familiarization with AGIS; (2) though the AGIS system is effective in meeting its intended objectives, certain components should be modified for clarity and better communication regarding AGIS usage should be instituted; (3) the Academic Alert system has had a positive impact on student performance; and (4) students and personnel need a better understanding of SOAP policies. (HB)
Descriptors: *Academic Advising; *Academic Standards; Community Colleges; *Computer Oriented Programs; Degree Requirements; *Educational Counseling; Program Evaluation; School Surveys; *Self Evaluation (Groups); Two Year Colleges

ED259706 IR011738
Using Microcomputer Based Career Guidance Systems in a University Setting: Reaction Data from Users.
Kapes, Jerome T.; And Others
31 Jan 1985 20p.; Paper presented at the Annual Meeting of the Southwest Educational Research Association (Austin, TX, January 31, 1985).
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Geographic Source: U.S.; Texas
Journal Announcement: RIEDEC85
Target Audience: Researchers
This report compares the effectiveness of two microcomputer based career guidance systems that are gaining widespread acceptance--the System of Interactive Guidance and Information (SIGI), produced by the Educational Testing Service, and DISCOVER, produced by the American College Testing Program. Both systems are designed to lead the user through an evaluation of abilities, interests, and/or values to establish a personal basis for choosing career alternatives. The two systems were evaluated by two distinct groups of Texas A&M students--beginning undergraduates and master's level counseling students. This report chronicles the results of that evaluation, as well as the methods used to collect and interpret student data. The results show that both undergraduate and graduate students gave the SIGI and DISCOVER systems high ratings, showing very little difference in their preference for one system over the other. Sample reaction questionnaires are included, together with statistical information on the responses of both groups. A concluding discussion comments on research in the field of computerized guidance counseling and suggests a need for high standards in selection and administration of such systems. (JB)
Descriptors: Career Choice; *Career Counseling; *Career Guidance; Career Planning; Comparative Analysis; *Computer Oriented Programs; Counselor Training; Higher Education; *Microcomputers; Program Evaluation; Questionnaires

ED259229 CE042013
Evaluation of Microcomputer Based Career Guidance Systems with College Students: SIGI and Discover.
Kapes, Jerome T.; And Others
1 Apr 1985 27p.; Study instruments printed on colored paper.
EDRS Price - MF01/PC02 Plus Postage.
Language: English
Document Type: EVALUATIVE REPORT (142); CONFERENCE PAPER (150)
Geographic Source: U.S.; Texas
Journal Announcement: RIEDEC85
The effectiveness of the microcomputer versions of two computer-based career guidance systems--the System of Interactive Guidance and Information (SIGI) and Discover--was studied. Two questions were posed regarding how college students who have used SIGI or Discover differ in terms of change on selected career development measures and how they evaluate their experience. A career development class of approximately 50 undergraduates was studied. Students were randomly assigned to SIGI or Discover and devoted one of three class periods per week to the system over a two-month period. Subjects were pre- and post-tested with four instruments designed to assess career development. Reaction data were also gathered. Data from the Career Development Inventory indicated a significant change in career development measures--Career Decision Scale, Survey of Career Development, Self-Assessment of Confidence and Progress in Educational/Career Planning--and on the Computer-Assisted Career Guidance Reaction Questionnaire. Significant differences were found between pre- and post-test scores, but the effects of the computer-based

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DIALOG File 1: ERIC - 66-85/DEC

guidance systems could not be separated from effects of the course. Subjects gave both systems mostly high ratings. (Six data tables and three instruments are attached.) (YLB)
Descriptors: Career Education; *Career Guidance; *College Students; *Computer Oriented Programs; Educational Research; Evaluation; Higher Education; *Microcomputers; *Program Effectiveness; Student Attitudes
Identifiers: Computer Assisted Guidance; *DISCOVER System; *System of Interactive Guidance and Information

ED259139 CE041809
Selection of a Computerized Guidance System: A Review of DISCOVER and SIGI.
Samai, Parvine Ghaffari
1 Apr 1985 15p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 1, 1985).
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: CONFERENCE PAPER (150); EVALUATIVE REPORT (142)
Geographic Source: U.S.; New York
Journal Announcement: RIEDEC85
This paper reviews the process of selection of a computerized guidance system for a multicampus, heterogeneous college. The paper first describes the criteria for selecting a career guidance program appropriate for a particular student population. These selection criteria included content of the program, internal structure, hardware and cost, and training and support. In the next section, the paper describes the main features of the two systems that were considered for implementation: DISCOVER and SIGI (System of Interactive Guidance and Information). Finally, the paper reviews the basis for the final decision (in which DISCOVER was chosen). The system was installed at two of the college campuses in February, 1985, and will be reviewed in Spring, 1986. (KC)
Descriptors: Career Education; *Career Guidance; College Programs; *Computer Oriented Programs; *Computer Software; *Evaluation Criteria; Higher Education; *Selection
Identifiers: *DISCOVER System; *System of Interactive Guidance and Information

ED258058 CG018260
Exemplary Vocational Guidance Projects in Virginia (1984-1985 Project Abstracts).
Virginia Polytechnic Inst. and State Univ., Blacksburg. Div. of Vocational-Technical Education.
1984 97p.; For related documents, see ED 212 929, ED 221 773, and ED 241 843.
Sponsoring Agency: Virginia State Dept. of Education, Richmond. Adult Education Service.
EDRS Price - MF01/PC04 Plus Postage.
Language: English
Document Type: BIBLIOGRAPHY (131); PROJECT DESCRIPTION (141)
Geographic Source: U.S.; Virginia
Journal Announcement: RIENOV85
Target Audience: Practitioners
This booklet, developed for persons interested in exemplary programs to improve vocational guidance and counseling, reviews currently funded projects in the field of vocational guidance. The document contains abstracts from 39 exemplary projects in vocational guidance and counseling in the state of Virginia. Included are abstracts from 7 projects dealing with business/industry/guidance exchange programs; 21 projects concerned with the implementation of microcomputer vocational guidance services; 5 projects at the middle school level; and 6 projects for persons with special needs. For each project, the objectives are listed, the procedure for implementation is outlined, and the project's contribution to vocational guidance is discussed. A directory giving names, addresses, and telephone numbers of local project directors as well as schools, institutions or agencies receiving funding is included. (NRB)
Descriptors: Abstracts; Career Counseling; *Career Guidance *Computer Oriented Programs; *Demonstration Programs; *Disabilities; Elementary Secondary Education; Guidance Programs; Individual Needs; Middle Schools; Postsecondary Education; Program Descriptions; *Program Implementation; *School Business Relationship
Identifiers: Special Needs Students; *Virginia

ED257989 CE041654
Conduct Computerized Guidance. Module CG C-3 of Category C--Implementing. Competency-Based Career Guidance Modules.
Whitfield, Edwin A.
American Association for Counseling and Development, Alexandria, VA.; American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif.; American Vocational Association, Inc., Arlington, Va.; Missouri Univ., Columbia.; Ohio State Univ., Columbus. National Center for Research in Vocational Education.
1985 48p.; For other modules in the Competency-Based Career Guidance Series, see CE 041 641.
Sponsoring Agency: Office of Vocational and Adult Education (ED), Washington, DC.
Report No.: ISBN-0-934425-15-9
Available from: Bell and Howell Publication Systems Division, Old Mansfield Road, Wooster, OH 44691-9050.
EDRS Price - MF01/PC02 Plus Postage.
Language: English
Document Type: INSTRUCTIONAL MATERIAL (051)
Geographic Source: U.S.; Ohio
Journal Announcement: RIENOV85
Target Audience: Counselors; Practitioners; Students
This module, one in a series of competency-based guidance program training packages, focuses on specific professional and paraprofessional competencies of guidance personnel. Modules in Category C suggest how to conduct, accomplish, or carry out selected career guidance program activities. The
(cont. next page)

purpose of this module is to help career guidance personnel increase their skills needed to plan, choose, and implement a computer-assisted guidance system based on local needs and resources. It begins with a section that presents the module goal and a listing of the four competency statements. An introduction gives an overview of the purpose and content of the module. The next section presents a reading (cognitive information) on each one of the competencies. Learning experiences related to the needed competencies follow. One learning experience exists for each competency (or cluster of competencies), and each may stand on its own. Each learning experience consists of an individual activity, individual feedback, and group activity. An evaluation section contains a Pre- and Post-Participant Assessment Questionnaire and a Trainer's Assessment Questionnaire. A final section lists all references and provides annotations of related major resources. (YLB)

Descriptors: Behavioral Objectives; Career Education; *Career Guidance; *Competency Based Education; *Computer Oriented Programs; Cost Effectiveness; Counselor Evaluation; *Counselor Training; *Guidance Personnel; *Guidance Programs; Individualized Instruction; Job Skills; Learning Activities; Learning Modules; Needs Assessment; Postsecondary Education; Program Development; Program Implementation

Identifiers: *Computer Assisted Guidance

ED256905 CE041425

A National Survey of the Use of DISCOVER and SIGI: Technical Report No. 1.

Sampson, James P., Jr.; And Others

Florida State Univ., Tallahassee. Clearinghouse for Computer-Assisted Guidance Systems.

Apr 1985 48p.

Sponsoring Agency: Kellogg Foundation, Battle Creek, Mich.

EDRS Price - MF01/PC02 Plus Postage.

Language: English

Document Type: RESEARCH REPORT (143)

Geographic Source: U.S.; Florida

Journal Announcement: RIEOCT85

A study examined patterns of the use of two computer-assisted career guidance (CACG) systems--the DISCOVER System and the System of Interactive Guidance and Information (SIGI)--at educational institutions throughout the country. A 30-item questionnaire was mailed to each of the 677 institutions across the United States that were identified as using either CACG system. Of those institutions contacted, 438 completed questionnaires, yielding a 64.7 percent response rate. Most of those institutions using a CACG system did so on microcomputers. The systems were used more widely in smaller than in larger schools. Some postsecondary institutions were using the systems as recruitment tools and, although neither system was designed for use by adults, adult students were said to be requesting and receiving services involving CACG. In many cases, CACG systems were being used as an integral part of traditional career guidance and educational services. In many cases, however, institutions have not engaged in the planning, staff training, and evaluation efforts necessary to deliver services that allow clients to obtain the full measure of benefits possible with this technology. To improve the use of CACG systems, professional associations, system developers, and user groups must establish standards for the provision of services. (The survey instrument is appended.) (MN)

Descriptors: Adult Education; *Career Counseling; *Career Education; *Career Guidance; *Computer Oriented Programs; Educational Practices; National Surveys; *Online Systems; Postsecondary Education; Secondary Education

Identifiers: *Computer Assisted Counseling; Computer Assisted Guidance; DISCOVER System; *System of Interactive Guidance and Information

ED255745 CE041289

Meeting the Career Development Needs of Tomorrow's Industrial/Technical Worker.

Kapes, Jerome T.

2 Dec 1984 23p.; Paper presented at the American Vocational Association Convention (New Orleans, LA, December 2, 1984).

EDRS Price - MF01/PC01 Plus Postage.

Language: English

Document Type: CONFERENCE PAPER (150); POSITION PAPER (120)

Geographic Source: U.S.; Texas

Journal Announcement: RIESEP85

The workplace is changing, and both education for employment in the workplace and a subset of the educational system that is directed towards meeting the career development needs of students and adult workers will also change. The basic four-part model of career guidance will continue to be useful. The tools and techniques that are used in each part of the model--inventory (assessment), information, counseling, and placement and followup--are most likely to change. Trends in the workplace that will have an impact on the career development needs of industrial technical workers include the change to an information society, high technology, and demographic changes. The type of career guidance for both students and workers in industrial/technical settings involves a shift in emphasis in both the inventory and information components of the career guidance model to being computer based. As the number of computer-based guidance systems grows, the number of counselors may increase. More counseling will be handled through group processes and will occur after high school graduation. The computer will also be used extensively in job placement. Followup will aid in job adjustment and information collection. (YLB)

Descriptors: Career Counseling; *Career Development; *Career Guidance; *Computer Oriented Programs; *Futures (of Society); Guidance Programs; *Industrial Education; Postsecondary Education; Secondary Education; *Technical Education; Vocational Education

DIALOG File 1: ERIC - 66-85/DEC

ED253811 CG018014
Opinions from a Sample of Counselor Educators about Microcomputers.
White, Arden
Oct 1984 20p.; Paper presented at the Annual Meeting of the Northern Rocky Mountain Educational Research Association (2nd, Jackson Hole, WY, October 4-6, 1984).
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: RESEARCH REPORT (143); CONFERENCE PAPER (150)
Geographic Source: U.S.; Wyoming
Journal Announcement: RIEJUL85
Within counselor education, attention to computer-assisted instruction, and to the use of microcomputers is just beginning. To collect information about counselor educators' use of microcomputers and to solicit opinions about the possible influence of this technology on counselor education curriculum and programming, a questionnaire was sent to 180 counselor educators stratified by rank and degree program; 88 questionnaires were returned. A shortened version was sent to those who had not replied in the first sample and to a new sample of 90 persons, producing an additional 73 returns for an overall sample of 161. Results showed that a microcomputer was available at work to 72.3 percent of the respondents. Of that group, 59.1 percent used the equipment for one or more purposes. Of those who used a microcomputer at work, 75.4 percent did word processing. The next most common usage (50.7 percent) was instructional enhancement. The curricular components most often mentioned as likely to change were career/educational information (N=38), measurement/evaluation (N=24), and research/statistics (N=23). Interactive programs were mentioned by six respondents. Forty-eight respondents indicated they were investigating acquiring a personal system, 47 stated plans to take a course, workshop or other training, and 27 stated they had no plans to develop any microcomputer involvement. While the opinions of counselor educators were diverse, there were no differences across rank/age groups or programs. (LLL)
Descriptors: Computer Assisted Instruction; *Computer Oriented Programs; *Counselor Educators; Counselor Training; Higher Education; *Microcomputers; Surveys; *Use Studies

ED252808 CG018044
Microcomputer Software for Counseling and Student Development.
Watjen, L. Russell, Comp.; And Others
ERIC Clearinghouse on Counseling and Personnel Services, Ann Arbor, Mich.
1984 149p.
Sponsoring Agency: National Inst. of Education (ED), Washington, DC.
Contract No.: 400-83-0014
Available from: ERIC/CAPS, 2108 School of Education, University of Michigan, Ann Arbor, MI 48109-1259.
EDRS Price - MF01/PC06 Plus Postage.
Language: English
Document Type: ERIC PRODUCT (071); BIBLIOGRAPHY (131)
Geographic Source: U.S., Michigan
Journal Announcement: RIEJUN85
Target Audience: Counselors; Support Staff; Practitioners
This catalog provides information on software for counselors and student services personnel, arranged according to counseling and student development topics. The areas covered by the catalog include administrative aids, athletics, career development, counseling, financial aid, health services, statistical programs, student activities, and testing. There are also sections on databases, electronic mail, software available in the public domain, publications for computer users, and software directories. Software programs are listed alphabetically by title under the appropriate heading, and include a description and information on system requirements (hardware, operating system), price, and publisher. The catalog also contains a Software Review Form (for listed programs) and a Software Submission Form (for suggested additions). (JAC)
Descriptors: Administration; Athletics; Career Development; Catalogs; *Computer Oriented Programs; *Computer Software; *Counseling; Databases; Elementary Secondary Education; Extracurricular Activities; Health Services; Higher Education Microcomputers; Statistics; *Student Development; Student Financial Aid; *Student Personnel Services; Testing
Identifiers: Computer Assisted Counseling; Computer Assisted Guidance

ED251786 CG017968
The C3 Experience: Counseling, Computers, and Creative Change.
Walz, Garry R., Ed.; Bleuer, Jeanne, Ed.
ERIC Clearinghouse on Counseling and Personnel Services, Ann Arbor, Mich.
1984 109p.
Sponsoring Agency: National Inst. of Education (ED), Washington, DC.
Contract No.: 400-83-0014
Available from: ERIC/CAPS, 2108 School of Education, University of Michigan, Ann Arbor, MI 48109-1259.
EDRS Price - MF01/PC05 Plus Postage.
Language: English
Document Type: COLLECTION (020); ERIC PRODUCT (071); POSITION PAPER (120)
Geographic Source: U.S.; Michigan
Journal Announcement: RIEMAY85
Target Audience: Counselors; Practitioners
This document contains six major presentations from the 1984 summer workshop, "The C3 Experience: Counseling, Computers, and Creative Change," sponsored by the ERIC Clearinghouse on Counseling and Personnel Services. The first presentation, "Exponential Counseling: Computers as a Multiplier" by JoAnn Harris-Bowlsbey, reviews the role that computers and educational technology can play in expanding the present
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DIALOG File 1: ERIC - 66-85/DEC

limits on counseling. The second presentation, "New Directions and Developments in NIE and DIP" by Laurabeth Hicks, presents a perspective on developments within the National Institute of Education and the Dissemination and Improvement of Practice Program (DIP), including potential implications for counseling and human services. The third presentation, "Synergyzing Counseling and Human Services" by Clayton Lafferty, pinpoints the need for changes in thinking to bring about improvements in counseling and human services. "From a Little Bit to a Big Byte: Motivating Your Staff," by Carl Berger, reviews the use of computers in education and the learning process. The fifth presentation, "Creative Sustenance: Enhancing our Capacity to Recreate Counseling" by Garry Walz and Libby Benjamin, addresses the subject of creativity, with comments and ideas of conference participants. The final presentation, "The Workplace of Tomorrow" by Libby Benjamin, describes a variety of alternative futures including employment trends and the impact of technology on occupations and workers and on education and the helping professions. (JAC)

Descriptors: Career Guidance; *Computer Assisted Instruction; Computer Literacy; Conferences; *Counseling; Creativity; *Educational Technology; *Educational Trends; Elementary Secondary Education; Employment Patterns; Futures (of Society); Higher Education; *Human Services; *Microcomputers; Work Environment

Identifiers: *Computer Assisted Counseling; National Institute of Education

ED251685 CE040316

Improving Counselors' Delivery of Career Guidance/Instructional Services through Computer Technology: A. High School Study. B. University Study. Final Report.

Rozman, Frank E.; Kahl, Michael D.

Millersville Univ., PA. Career Planning and Placement Center.

1984 117p.

Sponsoring Agency: Pennsylvania State Dept. of Education, Harrisburg.

EDRS Price - MF01/PC05 Plus Postage.

Language: English

Document Type: RESEARCH REPORT (143)

Geographic Source: U.S.; Pennsylvania

Journal Announcement: RIEMAY85

Six high schools and Millersville University implemented the microcomputerized Discover II Career Guidance system. Subjects for the high school study were 386 juniors in six high schools within a 25-mile radius of Millersville University. Subjects were divided into control, Discover/directive counseling, and Discover-only groups. Pre- and post-tests measured career maturity. Post-tests surveyed career development activities. Pre- and post-tests surveyed counselor attitudes toward delivery of career guidance using microcomputer technology. Structured observations were conducted to assess counselors' incorporation of computer technology into career guidance. Discover II had a positive effect on career maturity, especially when combined with directive counseling. Counselors who used Discover II exhibited a more positive attitude toward computer technology. In the university study, use of Discover II was initiated at the Career Planning and Placement Center. Subjects were 87 freshmen enrolled in a course offering career assistance. The 10 sections were divided into control, Discover/directive counseling, and Discover-only groups. Pre- and post-tests measured subjects' career development and maturity. Discover II had a positive effect on career maturity and development, especially when combined with directive counseling. (Appendixes for both reports include forms, instruments, and survey results.) (YLB)

Descriptors: *Career Development; Career Education; *Career Guidance; College Freshmen; *Computer Oriented Programs; *Counseling Effectiveness; Counseling Techniques; *Counselor Attitudes; Educational Research; Grade 11; Higher Education; High Schools; Microcomputers; Pretests Posttests; *Vocational Maturity

Identifiers: *Computer Assisted Guidance

ED248426 CG017700

A Computer Program to Assist Counseling Trainees in Understanding Interpersonal Influence Processes in Their Counseling.

Lichtenberg, James W.

27 Apr 1984 21p.; Paper presented at the Annual Meeting of the American Educational Research Association (68th, New Orleans, LA, April 23-27, 1984).

EDRS Price - MF01/PC01 Plus Postage.

Language: English

Document Type: PROJECT DESCRIPTION (141); CONFERENCE PAPER (150)

Geographic Source: U.S.; Kansas

Journal Announcement: RIEFEB85

Target Audience: Counselors; Practitioners

This paper describes a computer program based on the premise that successful counseling can be viewed as an interpersonal influence process composed of three basic features: sequentiality, flexibility, and constraint. An introduction to the INTERACT program explains how the program analyzes counselor/client and client/counselor transitions or response contingencies. Data entry is explained and six program outputs are discussed: (1) counselor and client response frequency counts; (2) matrix of counselor-client contingency frequencies; (3) matrix of counselor-client transition probabilities; (4) counselor-counselor and client-client transition matrix; (5) information/association measures; and (6) relative influence. The benefits of the program to counseling students are discussed and technical notes are provided which describe needed hardware and availability. A series of figures presenting sample printouts for each of the program areas concludes the paper. (JAC)

Descriptors: *Computer Assisted Instruction; *Computer Software; *Counselor Client Relationship; *Counselor Training Higher Education; Interaction; Program Descriptions; Training

(cont. next page)

DIALOG File 1: ERIC - 66-85/DEC

Methods
Identifiers: *INTERACT (Computer Program); *Interpersonal Influence Process

ED248361 CE039661
NJOICC/CIDS In-Service Training. Final Report 1983-84.
Brookdale Community Coll., Lincroft, N.J.
1984 43p.
Sponsoring Agency: New Jersey State Dept. of Education, Trenton. Div. of Vocational Education and Career Preparation.; New Jersey State Occupational Information Coordinating Committee, Trenton.
EDRS Price - MF01/PC02 Plus Postage.
Language: English
Document Type: PROJECT DESCRIPTION (141); NON-CLASSROOM MATERIAL (055)
Geographic Source: U.S.; New Jersey
Journal Announcement: RIEFEB85
An inservice training program was held at Brookdale Community College in Lincroft, New Jersey, for the purpose of training guidance counselors and teachers in the incorporation into existing curricula of the New Jersey Career Information Delivery System (CIDS), developed by the New Jersey Occupational Information Coordinating Committee (NJOICC). The initial phase of the training project involved the development of a CIDS training curriculum. In the next phase of the project, five inservice workshops were implemented for a total of 125 guidance counselors and teachers. Following the completion of the series of workshops, those staff members who presented the workshops developed a CIDS training manual. Follow-up contact with the workshop participants was maintained by the project staff throughout the next year. (The CIDS training manual is appended to this report. Included in the manual are an overview of computer-based guidance systems, a case study of the use of CIDS that includes sample computer searches, guidelines on program implementation, a CIDS summary, and a CIDS checklist.) (MN)
Descriptors: *Career Counseling; Case Studies; *Computer Assisted Instruction; Counseling Techniques; Counselor Training; Curriculum Development; Databases; Delivery Systems *Fused Curriculum; Guidelines; Inservice Teacher Education; *Occupational Information; Program Implementation; School Counselors; Secondary Education; Teacher Workshops; Teaching Methods
Identifiers: *Career Information Delivery System NJ; *Computer Assisted Counseling; New Jersey

ED247966 JC840468
Vocational-Technical Microcomputer Applications in Michigan and Bordering States (Upper Midwest Region). A Status Report: Summer 1984.
Harris, Richard; Obert, Deborah
Ferris State Coll., Big Rapids, MI. Center for Occupational Education.
1984 115p.; Portions are marginally legible.
Available from: Center for Occupational Education, School of Education, Ferris State College, Big Rapids, MI 49307 ($6.00).
EDRS Price - MF01/PC05 Plus Postage.
Language: English
Document Type: RESEARCH REPORT (143); TEST, QUESTIONNAIRE (160); STATISTICAL MATERIAL (110)
Geographic Source: U.S.; Michigan
Journal Announcement: RIEJAN85
Target Audience: Practitioners
In summer 1984, a study was conducted to assess the status of microcomputer applications in the public vocational-technical facilities of Michigan, Indiana, Minnesota, Illinois, Ohio, and Wisconsin. Mailing lists provided by the vocational education divisions of each state department of education were used to survey 705 individuals regarding hardware and the applications of software in administration, instructional support, counseling/job placement, and vocational education. Study findings, based on a regional response rate of 39%, included the following: (1) Apple/Apple Compatible, IBM-PC/IBM Compatible, and Radio Shack microcomputers dominated the institutions' inventories; (2) a moderate overall percentage of facilities had microcomputers communicating to a mainframe; (3) local area networking was being utilized or under consideration to a significant extent in every state; (4) there was a significant amount of administrative software application activity in accounting/finance, analysis spreadsheet, data base applications, and word processing in every state; (5) most of the activity in instructional applications of software was in the areas of word processing and computer-assisted instruction; (6) microcomputers were used extensively in job placement, counseling, and occupational information systems; and (7) software applications in health occupations were less apparent than in other vocational-technical programs. Study findings are reported primarily in graphs and tables. (LAL)
Descriptors: *College Administration; *College Instruction; *Computer Oriented Programs; *Computer Software; *Educational Counseling; *Microcomputers; Postsecondary Education; State Surveys

ED247511 CG017673
Microcomputers in Counseling.
Stone, Thomas K.
Aug 1983 23p.
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: PROJECT DESCRIPTION (141)
Geographic Source: U.S.; Michigan
Journal Announcement: RIEJAN85
Target Audience: Counselors; Practitioners
This paper describes the use and challenges of microcomputers in guidance and counseling. Following introductory remarks on the technological advancement of computers and their impact, currently available career
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guidance systems, testing systems (including psychological testing, interviewing, and test preparation), administrative systems, and personal counseling systems are itemized. Each listing contains a brief annotation and the microcomputer for which the software is designed. Issues which have been raised by the growing attention to the use of microcomputers in counseling are discussed, including quality of programs, cost, theoretical assumptions, context of use, approach-avoidance behavior, confidentiality, and how to get started. Challenges to the profession, (e.g., literacy, knowledge of software, and application designs) are discussed. The paper concludes with proposals for state and national level leadership tasks and roles. (BL)

Descriptors: Career Guidance; Computer Literacy; Computer Software; *Counseling Services; *Guidance Programs; *Microcomputers; Networks; *Professional Development; Psychological Testing; *Technological Advancement

Identifiers: *Computer Assisted Counseling

ED245182 CG017659

Implementing Computer Assisted Career Guidance and Other Computer Applications for the Adult Learner.

Sampson, James P., Jr.; And Others

Council for the Advancement of Experiential Learning, Columbia, Md.; ERIC Clearinghouse on Counseling and Personnel Services, Ann Arbor, Mich.; Kellogg Foundation, Battle Creek, Mich.

1984 73p.; A collaborative publication with Project LEARN of the W. K. Kellogg Foundation.

Sponsoring Agency: National Inst. of Education (ED), Washington, DC.

Contract No.: 400-83-0014

Available from: ERIC/CAPS, School of Education, University of Michigan, Ann Arbor, MI 48109-1259 ($5).

EDRS Price - MF01/PC03 Plus Postage.

Language: English

Document Type: NON-CLASSROOM MATERIAL (055); ERIC PRODUCT (071)

Geographic Source: U.S.; Michigan

Journal Announcement: RIENOV84

Target Audience: Counselors; Administrators; Practitioners

Computer assisted career guidance (CACG) systems and other computer applications are becoming established components of counseling and guidance services. While technical details involved in software and hardware operations are usually attended to, problems resulting from interpersonal dynamics in the implementation process often contribute more to implementation difficulties than problems resulting from technological malfunction. This monograph presents an overview of computer applications in counseling, discusses typical problems associated with the implementation process, and describes the types of systems found in various settings. The interpersonal dynamics involved in organizational change are reviewed. Based on this discussion, a comprehensive model for implementing CACG systems and other computer applications is presented. Phases involved in this model are described including planning; staff training; trial; and operation, evaluation and refinement. The monograph concludes with a discussion of future perspectives regarding computer technology. (Author/MCF)

Descriptors: *Career Development; *Career Guidance; *Change Strategies; *Computer Oriented Programs; Counseling Services; Guidance Programs; Models; Program Development; *Program Implementation; Technological Advancement

Identifiers: *Computer Assisted Career Guidance

ED245064 CE038970

A Computer Program for Experimental Use in Vocational Guidance and Research.

Athanasou, James A.

New South Wales Dept. of Industrial Relations, Darlinghurst (Australia).

Apr 1984 75p.; Marginally legible.

Report No.: ISBN-0-7240-8272-7

EDRS Price - MF01 Plus Postage. PC Not Available from EDRS.

Language: English

Document Type: RESEARCH REPORT (143)

Geographic Source: Australia; New South Wales

Journal Announcement: RIENOV84

Government: Foreign

A computer-assisted vocational exploration package has been designed for use in guidance and research by senior high school students in Australia. Intended to complement the work of psychologists, counselors, and guidance officers, the OSSIE (Occupational Selection by Similar Interest Exploration) package relies upon the individual's stated interests, values, and potential educational level to focus on occupational choice. The program, which takes approximately 30-40 minutes to complete, is interactive, self-adaptive, and user-friendly. Six components comprise the package. The introduction is a guide to the package and initial assessment of choices. Using the next five subsystems, the student (1) examines 10 career interest categories and rates the importance of each one, (2) determines/varies the level of education and training sought, (3) rates self and five preferred occupations on 13 work values, (4) chooses and compares all five occupations in a simulated exercise, and (5) evaluates OSSIE and is provided with a summary of his/her responses. Preliminary results from a field trial indicate that students found career guidance more interesting with the use of computers and support previous findings of high user acceptance and liking for interactive guidance programs. (A sample OSSIE transcript is appended.) (YLB)

Descriptors: *Career Choice; Career Education; *Career Exploration; *Career Guidance; *Computer Oriented Programs; *Computer Software; Educational Attainment; Foreign Countries Higher Education; Occupational Information; Program Evaluation; Secondary Education; Student Educational Objectives; Values Vocational Interests; Work Attitudes

Identifiers: *Australia; *Computer Assisted Guidance

DIALOG File 1: ERIC - 66-85/DEC

ED243511 JC840184
Development of Oakton Community College's Graduation/Registration/Advisement System (GRADS) and the Standards of Academic Progress (SOAP) Utilizing Computer Resources.
Donohue, John P.; And Others
7 Feb 1984 18p.; Paper presented at the League for Innovation in the Community Colleges and Maricopa Community College Working Conference on Student Information Systems (Scottsdale, AZ, February 6-7, 1984).
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: CONFERENCE PAPER (150); PROJECT DESCRIPTION (141)
Geographic Source: U.S.; Illinois
Journal Announcement: RIESEP84
Target Audience: Practitioners
Various aspects of the development of a computerized matriculation system at Oakton Community College (OCC) are described in this collection of reports and papers. First, John P. Donahue provides background information on the system, focusing on the personnel involved in designing the system and offering observations about the development of a graduation requirements database. Next is a paper on the development of the Graduation Requirement Advisement System (GRADS) at OCC by Steven R. Helfgot, which focuses on: (1) the conditions that suggested the need for a computerized advisement system; (2) the two major functions of the system: i.e., the provision of an accurate assessment of the student's progress toward graduation, and the identification of and communication with students who were not meeting minimum standards; (3) the use of Miami-Dade Community College's Advisement Graduation Information System and Response System with Variable Prescriptions as models; (4) the types of information for students and counselors to be included in the system; (5) the work and recommendations of the college-wide committee on standards; (6) the supports and sanctions corresponding to four academic status stages; (7) the identification of students falling below the standards of academic progress; and (8) the schedule of implementation. Next, a memo from Richard Kirtley highlights findings from a preliminary analysis of system needs. Finally, Gail Cohen's overview of GRADS and its complimentary system, Standards of Academic Progress (SOAP), is presented. (LAL)
Descriptors: *Academic Advising; *Academic Standards; Community Colleges; *Computer Oriented Programs; *Educational Counseling; Graduation Requirements; *Information Systems; Two Year Colleges
Identifiers: *Oakton Community College IL

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ED241834 CG017311
Exemplary Vocational Guidance Projects in Virginia. (1983-84 Project Abstracts).
Virginia Polytechnic Inst. and State Univ., Blacksburg. Div. of Vocational-Technical Education.
1983 38p.; For related documents, see ED 212 929 and ED 221 773. Subtitled "Improving Vocational Guidance and Counseling in Middle Schools."
Sponsoring Agency: Virginia State Dept. of Education, Richmond. Adult Education Service.
EDRS Price - MF01/PC02 Plus Postage.
Language: English
Document Type: BIBLIOGRAPHY (131)
Geographic Source: U.S.; Virginia
Journal Announcement: RIEAUG84
Government: State
Target Audience: Practitioners
This collection of abstracts provides descriptions of exemplary vocational guidance and counseling projects funded in Virginia through Title II (Vocational Education) of Public Law 94-482. The abstracts describe programs to improve vocational guidance for special needs persons (disadvantaged, handicapped) as well as those to improve vocational guidance in middle schools. A summary of the implementation of microcomputer vocational guidance services includes overall objectives and comments on methodology for implementation as well as charts of proposed activities. The activities of these programs are grouped by school system, universities and 4-year institutions, community colleges, and agencies. A directory of the school, institution, or agency receiving funding is also given along with the names, addresses, and phone numbers of project directors. (JAC)
Descriptors: Abstracts; Adults; Blacks; Career Exploration; *Career Guidance; Counseling Techniques; Disabilities; Disadvantaged Youth; Individual Needs; *Microcomputers; *Middle Schools; Postsecondary Education; Program Descriptions; *Special Education
Identifiers: *Computer Assisted Counseling; *Computer Assisted Guidance; Virginia

ED239053 CE037878
Microcomputers: Applications in Career Counseling and Career Education.
Lambert, Roger, Ed.; Rodenstein, Judith, Ed.
Wisconsin Univ., Madison. Wisconsin Vocational Studies Center.
[1982 305p.; For related documents, see CE 037 876-877.
EDRS Price - MF01 Plus Postage. PC Not Available from EDRS.
Language: English
Document Type: COLLECTION (020); NON-CLASSROOM MATERIAL (055)
Geographic Source: U.S.; Wisconsin
Journal Announcement: RIEJUN84
Target Audience: Teachers; Administrators; Counselors; Practitioners
This handbook was designed to help counselors and career development personnel to adopt and adapt to using microcomputers. The 18 papers included in the handbook were written by a cross section of career and counseling professionals as well as experts in microcomputer
(cont. next page)

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applications. In the first section of the handbook, the authors examine the general use of microcomputers in education and in career development. Important issues related to these topics are presented, and initiatives for instruction, counseling, and administrative tasks are described. The second section focuses on the areas, services, and programs pertinent to career counseling and career selection. The role of the microcomputer is examined with specific information provided and applications specified for the career counseling program. Topics covered in the book include the following: computer literacy, buying hardware and software, designing software, administrative use of the microcomputer, using microcomputers with special needs students, career information and the microcomputer, job simulation on the microcomputer, computerized career planning inventories, career exploration, and emerging careers. Short biographies of the contributors complete the text. (KC)

Descriptors: Administration; *Career Choice; *Career Counseling; *Career Education; Career Exploration; Career Planning; Computer Literacy; *Computer Oriented Programs; Disabilities; Emerging Occupations; Exceptional Persons; Job Skills; Measures (Individuals); *Microcomputers; Postsecondary Education; Programing; School Counseling; Secondary Education Simulation; Special Education

ED237851 CG017105

The Development of MUMPS-Based Rehabilitation Psychology Computer Applications.

Dutro, Kenneth R.

Aug 1983 18p.; Paper presented at the Annual Convention of the American Psychological Association (91st, Anaheim, CA, August 26-30, 1983).

EDRS Price - MF01/PC01 Plus Postage.

Language: English

Document Type: PROJECT DESCRIPTION (141); CONFERENCE PAPER (150)

Geographic Source: U.S.; California

Journal Announcement: RIEMAY84

Target Audience: Practioners

The use of computer assisted programs in career exploration and occupational information is well documented. Various phases of the vocational counseling process, i.e., diagnostic evaluation, program planning, career exploration, case management, and program evaluation, offer similarly promising opportunities for computerization. Using the Massachusetts General Hospital Multiprogramming System (MUMPS) File Manager system, the Loma Linda, California Veterans Administration Hospital Rehabilitation Psychology Department developed a system which adapted the uniqueness of the file manager system with the development of branching logic necessary in designing vocational rehabilitation interviews, questionnaires, and client treatment plans. Using this system the counselor is able to select specific information, from predetermined sets of information, to match the client's unique situation and characteristics with available services and programs. The Loma Linda staff has further developed a psychodiagnostic assessment system to accomodate graphics software, multiple norms, and timed tests, and a case management program which allows for monitoring of the client's progress. (A copy of the vocational counseling interview and the vocational rehabilitation plan are attached.) (BL)

Descriptors: Career Choice; *Career Counseling; Caseworker Approach; Computer Assisted Testing; *Computer Oriented Programs; Computer Science; Individualized Programs; *Management Information Systems; *Occupational Information; Program Descriptions; Psycholcgical Services; Vocational Aptitude; *Vocational Rehabilitation

Identifiers: Case Management; *Computer Assisted Guidance; MUMPS Programming Language

ED237793 CE800047

Computer-Based Systems. Overview: ERIC Fact Sheet No. 5.

Mays, Francine

ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, Ohio.

[1982 6p.

Sponsoring Agency: National Inst. of Education (ED), Washington, DC.

EDRS Price - MF01/PC01 Plus Postage.

Language: English

Document Type: ERIC PRODUCT (071)

Geographic Source: U.S.; Ohio

Journal Announcement: RIEMAY84

Target Audience: Practitioners

This fact sheet gives an overview of computer-based career information and guidance systems to aid in understanding, selecting, and using such systems. Topics covered include: (1) possible components of a computer-based system; (2) user needs which can be met through such a system; (3) areas to be considered when selecting a system including resources, information and guidance, population and setting, structure, data storage, use of data, changing and updating information, and costs; (4) issues to address to ensure the effectiveness of the system including evaluation, access for all learners, personnel preparation, and affirmative action; and (5) areas in which staff development may be needed. A bibliography citing four references and 14 additional resources, most of which are available from the Educational Resources Information Center (ERIC) system, is provided (DC)

Descriptors: *Career Guidance; *Computer Oriented Programs; Evaluation Criteria; Guidelines; *Information Systems; Media Selection; Online Systems; Postsecondary Education; Resource Materials; Secondary Education; Staff Development; Student Needs

Identifiers: *Career Information Systems; ERIC; Fact Sheets PF Project

DIALOG File 1: ERIC - 66-85/DEC

ED235868 UC830498
"START": A Computer-Assisted Management Model for Student Testing, Advisement Retention, Tracking.
Prince George's Community Coll., Largo, MD. Dept. of Human Development.
May 1983 68p.
EDRS Price - MF01/PC03 Plus Postage.
Language: English
Document Type: PROJECT DESCRIPTION (141); NON-CLASSROOM MATERIAL (055)
Geographic Source: U.S.; Maryland
Journal Announcement: RIEMAR84
Target Audience: Teachers; Counselors; Practitioners
The computer-assisted management model described in this manual was implemented by the Counseling and Human Development Department at Prince George's Community College for the purposes of Student Testing, Advisement, Retention, and Tracking (START). As introductory material notes, START is an integrated computerized system which tracks student progress through various stages of college attendance. Beginning with initial, pre-admissions advisement, START manages student contact through computer-generated letters informing students of outstanding credentials, registration procedures, important dates, and unmet degree requirements. Following the introductory remarks on the functions and development of START, a preamble and working statement are presented, defining the philosophy of the Human Development Department and its testing and advising philosophy. Goals and objectives for the testing and advisement program are then delineated for concurrent enrollment, matriculating first-time, international, matriculating readmit/transfer, and non-matriculating students. Samples of letters sent to students regarding probation, testing, and counseling are followed by an overview of START's development. Flow charts showing the modules for the START program and the Student Information Services system, letters detailing student progress, and a list of computerized student mailings and their cost conclude the manual. (LAL)
Descriptors: *Academic Advising; Community Colleges; *Computer Oriented Programs; *Educational Counseling; Graduation Requirements; *Information Dissemination; *Management Information Systems; Two Year Colleges

ED233280 CG016859
Communicating Counseling Research Using Formal English and Computer Models.
Hummel, Thomas J.
Apr 1983 17p.; Paper presented at the Annual Meeting of the American Educational Research Association (67th, Montreal, Canada, April 11-14, 1983).
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: REVIEW LITERATURE (070); GENERAL REPORT (140); CONFERENCE PAPER (150)
Geographic Source: U.S.; Minnesota
Journal Announcement: RIEJAN84
Target Audience: Researchers
This document discusses the creation of a new formal language for the field of counseling psychology. Constructs for such a language are applied specifically to the communication of research information (especially research concerned with the effects of counselor action on clients) for experimental replication. Grammatical concepts of a formal language are described, i.e., syntactic categories (called nonterminal symbols), terminal symbols of the language (English words), and rewrite rules for combining symbols into strings (such as sentences). An argument is made for the use of a computer language as the vehicle for communicating explicit information about counseling actions, and examples of possible rewrite rules for counseling language are given. A strategy is presented to translate counseling language into a form recognizable by a computer, using an "interpreter," i.e., a computer program which would interpret the counseling language. The tasks of the interpreter are described, and the design of the interpreter program is discussed. Tables are given which provide examples of input to the interpreter. (WAS)
Descriptors: *Computer Oriented Programs; Computer Programs *Counseling; Experiments; *Programing Languages; Psychological Studies; Research Methodology; *Research Needs; *Research Tools

ED233256 CG016833
Individualized Career Education Plan (ICEP) K-12, and Comprehensive Career Guidance System. Second Edition.
Rouson, William E.
Riverside County Superintendent of Schools, Calif.
4 Jan 1983 258p.; For related document, see ED 217 314.
EDRS Price - MF01/PC11 Plus Postage.
Language: English
Document Type: TEACHING GUIDE (052)
Geographic Source: U.S.; California
Journal Announcement: RIEJAN84
Target Audience: Practitioners
The first section of this guide presents the Individualized Career Education Planning (ICEP) system, which provides major organizing and implementing components for comprehensive, individualized career guidance and instruction including: ICEP forms for recording career development goals and short-term objectives, guidance and instructional activities, and students' present level of career related skills and proficiencies; an assessment plan; and step-by-step plans for professional and peer group counseling related to career education. The system is computerized and may be used with all K-12 students and in continuing education. The ICEP system divides career education into five developmental stages: awareness, orientation, exploration, preparation, and participation. The second section of the guide, arranged by curriculum subject matter, presents instructional strategies designed to integrate career education into curriculum

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activities. Each strategy specifies the following: career development goal (at one of the five stages of development), grade level, subject area, short-term objectives, and activities. The curriculum areas are: language arts, mathematics, science, social studies, health, music, art, physical education, English, home economics/industrial education, business education, foreign languages, and interdisciplinary studies. The third section of the guide provides the computerized forms for ICEP. A list and description of the basic skills appropriate for students, according to grade level and subject matter area, is attached. (WAS)

Descriptors: •Career Education; Classroom Techniques; •Computer Oriented Programs; Curriculum Development; Elementary Secondary Education; Guidance Objectives; •Guidance Programs; •Individualized Instruction; •Learning Activities

ED232117 CG016811

Florida CHOICES Counselor Manual, 1982-1983.

Thomas, Glenn R.; And Others

Florida State Dept. of Education, Tallahassee. Div. of Vocational Education.

1983 103p.; The Center for Career Development Services assisted in developing this manual.

EDRS Price - MF01/PC05 Plus Postage.

Language: English

Document Type: NON-CLASSROOM MATERIAL (055)

Geographic Source: U.S.; Florida

Journal Announcement: RIEDEC83

Government: State

Target Audience: Practitioners

This manual is intended to acquaint counselors with CHOICES, a computer-assisted career information program. Following an overview of the CHOICES system, and a brief discussion of the usefulness of the program for counselors, the three-step CHOICES process is presented: Step 1, the Initial Interview (pre- CHOICES), involves determining student suitability, introducing the student to CHOICES, and preparing the student to use the guidebook and the guidesheet; Step 2, The Terminal, calls for reviewing the guidesheet and using the terminal; Step 3, the Third Interview (post-CHOICES), involves discussing the printout and developing the follow-up plan. Directions for using the CHOICES routes or strategies to access the information, are explained including explore, specific, compare, relate, job bank, and education file. Career information topics covered in CHOICES are also described including interests, aptitudes, temperaments, education level, working conditions, future outlook, earnings, hours of work/travel, physical demands and activities, indoor/outdoor, career fields, and training required. Sections which deal with using the terminal, sources of CHOICES information, and practical considerations in using CHOICES are also included. A final section presents ideas for career center counseling materials and organizational tips recommended by Florida career counselors. The appendices contain a conversion table from GATB raw scores to CHOICES aptitude levels, a Florida State Employment Services Job Bank map, and a glossary. (MCF)

Descriptors: Adolescents; •Career Choice; •Career Counseling ; Career Guidance; College Students; Computer Literacy; •Computer Oriented Programs; •Decision Making; Higher Education; Secondary Education

Identifiers: •CHOICES (Program); •Computer Assisted Counseling

ED230761 CE036215

SIGI at NTID. A Brief Overview of the History and Implementation of the System for Interactive Guidance and Information (SIGI) at the National Technical Institute for the Deaf.

McKee, Barbara G.; Schroedl, Kathleen J.

Nov 1981 13p.; For a related document, see ED 223 821.

EDRS Price - MF01/PC01 Plus Postage.

Language: English

Document Type: PROJECT DESCRIPTION (141)

Geographic Source: U.S.; New York

Journal Announcement: RIENOV83

Target Audience: Practitioners

As early as July 1974, the System of Interactive Guidance and Information (SIGI), a computer-based aid to career decision making, had been identified for possible use at the National Technical Institute for the Deaf (NTID). A task force that intensively studied SIGI and its potential for use within NTID recommended that it be brought to NTID. For its successful implementation, the task force recommended certain support services such as a counseling coordinator, a resource assistant, and a research associate. During the three years that SIGI has been in use at NTID, several different implementation strategies have been tried, including totally independent student interaction, use during the Summer Vestibule program, SIGI as a requirement of a career decision-making class, career counseling, pairs of students going through SIGI together, and SIGI as extra credit in other courses. Results of evaluation of SIGI's effectiveness indicated that students and career counselors reported very positive feelings about SIGI's potential use at NTID. Recently, development of a computer program to summarize data from a group of students has been undertaken. The data collection option could be used to study students' comprehension and the use of the various subsystems and allow for comparison of NTID users and normal hearing students. (YLB)

Descriptors: Career Education; •Career Guidance; •Career Planning; •Computer Oriented Programs; Deafness; Decision Making; Guidance Programs; •Hearing Impairments; Information Systems; Occupational Information; Postsecondary Education; Program Effectiveness; •Program Implementation; Technical Institutes; Use Studies

Identifiers: •National Technical Institute for the Deaf; •System of Interactive Guidance and Information

DIALOG File 1: ERIC - 66-85/DEC

ED230735 CE036143
Adult Learners' Response to Computer-Based Career Guidance Systems in Three Settings: An Employee Development Program, A College Counseling Center, and a Public Library.
Dewees, Patricia
Mar 1983 16p.; Presented at the Annual Meeting of the American Personnel and Guidance Association (Washington, DC, March 1983).
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: RESEARCH REPORT (143); CONFERENCE PAPER (150)
Geographic Source: U.S.; Ohio
Journal Announcement: RIENOV83
The usefulness of two computer-based guidance systems--SIGI (System of Interactive Guidance and Information) and ENCORE--in meeting the career planning needs of adults was explored. Another area of study was how these systems fit into the differing career resource centers of an employer, a college, and a public library. Participants who used SIGI at the NCR Management College and at a SIGI work station in the personnel resources office of an Ohio NCR division found the program helpful. Their comments confirmed the general demand for career development programs. Of the 51 people who used the ENCORE system at the Ursuline College Counseling Center, 27 were very pleased and 20 rated the system as "OK." SIGI users at other educational sites were very satisfied, although over half rated SIGI content as oriented toward a younger college student. The use of SIGI and ENCORE in public libraries in Cleveland and Columbus, Ohio was minimal and illustrated the need for a supporting program in terms of marketing, staff support, and follow-up services. (YLB)
Descriptors: Adult Education; Career Development; Career Education; *Career Guidance; Career Planning; Colleges; *Computer Oriented Programs; *Guidance Centers; Information Utilization; Program Effectiveness; *Public Libraries; Resource Centers; Staff Development; *User Satisfaction (Information); Use Studies
Identifiers: *Computer Assisted Guidance; ENCORE (Computer System); System of Interactive Guidance and Information

ED229571 CE035834
NATCON 4.
Canadian Commission of Employment and Immigration, Ottawa (Ontario).
1983 149p.; For related documents, see ED 220 614-615 and CE 035 833. Published in French under the title "CONNAT 4."
Report No.: ISBN-0-662-12508-8; WH-7-253E
EDRS Price - MF01/PC06 Plus Postage.
Language: English
Document Type: EVALUATIVE REPORT (142); RESEARCH REPORT (143); COLLECTION (020)
Geographic Source: Canada; Ontario
Journal Announcement: RIEOCT83
Government: Foreign
This document collects five presentations in the field of vocational counseling and guidance. Its aim is to share research reports with vocational counselors, enhancing the level of this service in Canada. In the first paper, Benjamin Gottlieb discusses social networks and the gestalt of help-seeking, pointing out that persons are attached to social networks, and that when these networks are torn (by divorce, loss of job, death), the individual needs help to form new attachments. The second and third papers in the collection concern peer counseling and peer intervention. In the second paper, Rey Carr details the rationale, origins, and practice of peer counseling, with particular applications to involving adolescents as peer counselors. The author takes the view that teenagers have been ignored as a source of positive help to other teenagers and that they can be trained to help others make effective decisions. In the third paper, P.S. Sussman surveys reports on research with peer counselors, concluding that more careful study should be made of peer intervention systems before encouraging their widespread use. The feasibility of using computers to assess vocational aptitudes is explored by Robert Knights and Clare Stoddart in the fourth paper. The authors conclude that it would be possible to automate parts 1 to 7 of the General Aptitude Test Battery, although the development of a completely new battery of tests to take advantage of the computer is recommended. In the final paper, Andre Lepine evaluates the Certification in Testing program for employment counselors, focusing on persons who have participated in the program, and makes recommendations for further study. (KC)
Descriptors: Adolescents; Adults; Career Counseling; *Computer Assisted Testing; *Counseling; Counseling Effectiveness; *Counseling Techniques; Counseling Theories; Employment Counselors; Helping Relationship; *Occupational Tests; *Peer Counseling; Social Networks; Testing; Vocational Aptitude
Identifiers: Canada; *General Aptitude Test Battery

ED225540 IR010545
Microcomputers in Education.
Gaushell, Harper
Apr 1982 8p.
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: POSITION PAPER (120)
Geographic Source: U.S.; Louisiana
Journal Announcement: RIEJUN83
The development of the first microcomputers in the 1970's has led to a quiet revolution in the use of computers in the school. Computers have proven themselves as effective teaching tools and now, for the first time, these tools are within realistic reach for all levels of education. Under the three major areas of administration management, instruction, and counseling and guidance, educational applications include master student filing, attendance, grading, scheduling, bookkeeping, office use, tutorial programs, drill and practice, simulation and games, diagnosis and prescription,
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career guidance, and testing. A vital prerequisite to the application of microcomputers in education is that of computer literacy. Competencies should include terminology, simple programming, applications, history, and social impact issues. The recent introduction of a variety of authoring languages has allowed educators, administrators, and counselors to become directly involved in developing programs for their specific content areas. Although a wide variety of computer applications are currently available, the real potential for computers in education has not yet been fully realized. This paper includes a list of 14 software suppliers. (Author/LMM)

Descriptors: *Computer Assisted Instruction; *Computer Literacy; *Computer Managed Instruction; *Computer Oriented Programs; Computer Programs; Elementary Secondary Education; Instructional Materials; *Microcomputers; Programing; *School Counseling; Technological Advancement

ED223821 CE034317

SIGI at NTID: Computer Assisted Career Guidance with Hearing-Impaired College Students.

McKee, Barbara G.; Schroedl, Kathleen J.

Mar 1982 23p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY, March 19-23, 1982).

EDRS Price - MF01/PC01 Plus Postage.

Language: English

Document Type: PROJECT DESCRIPTION (141); RESEARCH REPORT (143); CONFERENCE PAPER (150)

Geographic Source: U.S.; New York

Journal Announcement: RIEMAY83

The System of Interactive Guidance and Information (SIGI) has been implemented at the National Technical Institute for the Deaf (NTID) to study its effectiveness and utility with a hearing-impaired college population. SIGI is composed of six interrelated subsystems: values, location, comparing, predicting, planning, and strategy. Each subsystem has two functions: to organize and dispense information and to teach the decision-making process. In the 3 years SIGI has been in use, different implementation strategies have been tried, including totally independent student interaction, requirement as part of a career decision-making class, and counselor-student use. Each approach has been successful for some students. Four evaluations have been conducted. The first shows positive student and counselor attitudes and the need for a pre-session or concurrent support. The most important finding of the second evaluation is the lack of difference between SIGI and non-SIGI students on their "goodness of career decision." Some findings from the final two studies are that reading comprehension was the biggest problem and that some jobs that students were interested in were not available. Future plans include a data summary program for SIGI and research on characteristics of students who can satisfactorily use SIGI. (YLB)

Descriptors: *Career Choice; *Career Guidance; College Students; *Computer Oriented Programs; *Decision Making; Decision Making Skills; Educational Research; *Hearing Impairments; Higher Education; *Occupational Information; Program Effectiveness; Program Evaluation; Program Implementation; Student Attitudes

Identifiers: System of Interactive Guidance and Information

ED222839 CG016313

Improving Acceptance of Automated Counseling Procedures.

Johnson, James H.; And Others

Oct 1981 11p.

EDRS Price - MF01/PC01 Plus Postage.

Language: English

Document Type: NON-CLASSROOM MATERIAL (055); GENERAL REPORT (140)

Geographic Source: U.S.; Illinois

Journal Announcement: RIEAPR83

Target Audience: Practitioners

This paper discusses factors that may influence the acceptance of automated counseling procedures by the military. A consensual model of the change process is presented which structures organizational readiness, the change strategy, and acceptance as integrated variables to be considered in a successful installation. A basic introduction to the principles of software psychology is presented and previous research is considered. A structured approach for the installation of automated military counseling procedures is proposed, taking into account planned change, software psychology, and previous practical experience. A preliminary organizational assessment instrument for use in the installation of automated counseling procedures is described in detail. (Author/JAC)

Descriptors: Adjustment (to Environment); *Change Strategies; *Computer Oriented Programs; *Counseling Techniques; Innovation; *Military Organizations; Military Personnel; Models; Organizational Development; *Participant Satisfaction *Program Implementation

Identifiers: *Computer Assisted Counseling

ED221778 CG016204

Computer Applications in School Psychology: A National Survey.

McCullough, C. Sue; And Others

Iowa State Dept. of Public Instruction, Des Moines. Div. of Special Education.; National Association of School Psychologists, Washington, DC.

15 Mar 1982 66p.; An Assistance to the States Committee project.

EDRS Price - MF01/PC03 Plus Postage.

Language: English

Document Type: RESEARCH REPORT (143)

Geographic Source: U.S.; Oregon

Journal Announcement: RIEMAR83

Government: State

Computer technology can assist school psychologists in

(cont. next page)

assessment, data management, and consultation, but there is little centralized information available about the most appropriate ways to use the computer. There is even debate about the amount of interest school psychologists have in acquiring computer skills. A nationwide survey of school psychologist practitioners, trainers, and state coordinators (N=194) was conducted to address these problems. Results showed that 92% of the total sample expressed positive attitudes toward the application of computer technology in school psychology. Those who expressed negative attitudes generally had no access to computers. Coordinators emerged as the most experienced in programming skills and also reported the greatest access to computers. Computer literacy courses were offered by 22% of the responding training institutions. Apple microcomputers were the most popular choice of school psychologists. The findings suggest that the control exercised by school psychologists over the computers in their environment will impact on their services. The appendices contain the survey data tables, a list of existing software for school psychology use, names of computer user groups, and the survey questionnaire instruments. (JAC)

Descriptors: Computer Assisted Testing; *Computer Literacy; *Computer Oriented Programs; Counseling Techniques; Counselor Educators; *Counselor Training; *Delivery Systems; Educational Diagnosis; Elementary Secondary Education; *Professional Development; Psychological Evaluation; Research Methodology; *School Psychologists

ED221700 CE033814

How To Select a Computer-Assisted Career Guidance System.

Maze, Marilyn; Cummings, Roger

1982 159p.; Originally prepared as a course syllabus for Project LEARN, a project of the Council for Advancement of Experimental Learning (CAEL) through a grant from the Kellogg Foundation.

Report No.: ISBN-0-9609352-0-7

Available from: Marilyn Maze, c/o EUREKA, 5625 Sutter Avenue, Richmond, CA 94804 ($8.00).

EDRS Price - MF01/PC07 Plus Postage.

Language: English

Document Type: NON-CLASSROOM MATERIAL (055); BOOK (010)

Geographic Source: U.S.; California

Journal Announcement: RIEMAR83

Target Audience: Practitioners

This manual is designed to provide the background needed by counselors to evaluate and select a computer-assisted career guidance system (CACGS) for their institution or agency. The manual is comprised of nine chapters. Chapters 1 and 2 explore the career planning process and the terminology used in computerized guidance, while chapter 3 combines the terminology and issues raised in chapter 2 into a procedure for evaluating a CACGS. In chapters 4-7 this framework is used for a comparative analysis of four major systems. The four CACGS reviewed in the manual were selected because they illustrate variety and are among the oldest, best researched CACGS in use today. (Other CACGS are mentioned in the appendices.) Chapter 8 provides an explanation of how to integrate the CACGS into the counseling process. Chapter 9 focuses on the future of computerized guidance in an effort to direct the user's thoughts to the improvements and advances desired in future systems. Appendices to the manual are designed for quick reference. Appendix A contains a glossary. Appendix B contains a brief review of the major systems available today, while appendix C describes a condensed procedure for evaluating CACGS. Appendix D lists addresses of persons to contact for assistance in planning a CACGS. (MC)

Descriptors: Career Choice; Career Counseling; *Career Guidance; *Career Planning; *Computer Oriented Programs; Educational Resources; Elementary Secondary Education; *Evaluation Criteria; Guidelines; Post High School Guidance; Postsecondary Education; Selection; *Systems Development

Identifiers: Career Information System; DISCOVER System; Guidance Information System; System of Interactive Guidance and Information

ED218575 CG016076

Counseling in the Year 2000: A Day in the Life of a Counselor.

Ross, David B.

Mar 1982 18p.

EDRS Price - MF01/PC01 Plus Postage.

Language: English

Document Type: REVIEW LITERATURE (070); GENERAL REPORT (140)

Geographic Source: U.S.; Illinois

Journal Announcement: RIEDEC82

This paper presents a view of counseling in the year 2000 and lists future trends particular to counseling through a scenario entitled "A Day in the Life of a Counselor," which predicts the impact of computers and technological change. Changes in job skills, work values, and places of employment and the role of the counselor in meeting changing needs of clients are also discussed. The materials contain the prediction that technology will not change the counselor's basic role of fostering self-understanding and communication between persons, and also present a hypothetical dialogue which illustrates this future role of the counselor. (JAC)

Descriptors: Communication Skills; *Computer Oriented Programs; Counseling Objectives; *Counselor Client Relationship; *Counselor Role; *Counselors; *Futures (of Society); Long Range Planning; Models; Social Change; State of the Art Reviews; *Technological Advancement

ED208168 CE030221

Workshop Presentations of the World Seminar on Employment Counseling (Ottawa, Ontario, September 1980).

Ross, Gladys G., Ed.

Canadian Commission of Employment and Immigration, Ottawa (Ontario).

[1980 563p.; Some pages will not reproduce well due to small

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DIALOG File 1: ERIC - 66-85/DEC

print.
EDRS Price - MF02/PC23 Plus Postage.
Language: English
Document Type: CONFERENCE PROCEEDINGS (021); POSITION PAPER (120); PROJECT DESCRIPTION (141)
Geographic Source: Canada; Ontario
Journal Announcement: RIEMAR82
Government: Foreign

This monograph presents 26 papers addressed to workshop sessions representing thought and innovation in employment counseling and vocational guidance. Two papers are written in German, one in French, and 23 in English. Abstracts preceding each paper appear in the two languages other than that used for the paper itself. Topics covered include training of counseling services personnel (Germany); counseling for midlife career change; policies for career information, guidance, and counseling in school-work transition; PLACE, an individualized learning package to assess employability; measuring employment counselor effectiveness; career decison making and computers; counseling for mid-career change; computerized job-person matching (Sweden); conceptual approach to career education; career development in industry; employment counseling of college students (United Kingdom); "focusing" in adult career counseling; life skills training; brokering and employment counseling; STEP, self-exploration programs for career selection (Germany); competency-based inservice program for counselors; impact of a computerized guidance information system; vocational counseling as an instructional process; evaluation of employment counseling; and computer-aided vocational counseling in mid-career change. (YLB)

Descriptors: Adult Counseling; Adult Education; *Career Change; Career Choice; Career Counseling; Career Development; Career Education; *Career Guidance; Career Planning; Competency Based Education; *Computer Oriented Programs; Computers; Counseling Effectiveness; Counselor Evaluation; *Counselor Training; Education Work Relationship; *Employment Counselors; Employment Potential; Higher Education; Information Systems; Inservice Education; *Midlife Transitions ; Postsecondary Education; Secondary Education; Self Evaluation (Individuals); Workshops

Identifiers: Canada; Educational Brokerage; Germany; Life Skills; Sweden; United Kingdom; United States

ED203910 JC810340
Exploration of Career Information Delivery Systems Via Computerization.
Moore, Rod; And Others
Southwest Virginia Community Coll., Richlands, Va.
[1981 40p.; Sponsored by Improving Vocational Guidance and Counseling Project.
EDRS Price - MF01/PC02 Plus Postage.
Language: English
Document Type: EVALUATIVE REPORT (142)
Geographic Source: U.S.; Virginia
Journal Announcement: RIENOV81

Based on research conducted by Southwest Virginia Community College, this monograph presents information in a variety of formats on seven computerized career information systems: (1) microcomputers, which have the advantage of low cost, amenability to the production of locally generated databases, and portability; (2) the Coordinated Occupational Information Network (COIN); (3) the Computerized Vocational Information System (CVIS); (4) the DISCOVER II program for microcomputers; (5) the Computerized Educational and Career Information Link (CECIL); (6) the Guidance Information System (GIS); and (7) the System for Interactive Guidance and Information (SIGI). In addition to individual descriptions of each system, a chart is provided, which compares these systems with respect to what kinds of information are included; cost of the software and hardware; how the system groups occupations (e.g., by values, interest, Dictionary of Occupational Title numbers, or Holland Codes); the number of occupations listed in the system; and how often the system is updated. Two additional articles are also included: Vince Landau's description of how Kansas Wesleyan College uses a microcomputer in listing teacher vacancies, career planning, computer-assisted instruction, and providing career information; and Sue Captain's discussion of the advantages of housing a Career Information Center in the college library. (AYC)

Descriptors: *Career Guidance; College Libraries; Community Colleges; Comparative Analysis; Computer Assisted Instruction *Computer Oriented Programs; Costs; *Microcomputers; *Occupational Information; *Online Systems; Two Year Colleges

Identifiers: *Career Information System; Computerized Educational Career Information Link; Computerized Vocational Information System; Coordinated Occupational Information Network; Guidance Information System; System of Interactive Guidance and Information

ED197776 JC810058
Advisement and Graduation Information System.
Harper, Harold; And Others
Miami-Dade Community Coll., Fla.
1981 34p.; Some pages may not reproduce clearly.
EDRS Price - MF01/PC02 Plus Postage.
Language: English
Document Type: PROJECT DESCRIPTION (141)
Geographic Source: U.S.; Florida
Journal Announcement: RIEJUN81

This descriptive report outlines Miami-Dade Community College's Advisement and Graduate Information System (AGIS) which, as an on-line computer aid for counseling staff, monitors students' progress in degree attainment. The need for AGIS is discussed first, in terms of: (1) the college's commitment to providing students with adequate information for course selection in light of required minimum competencies, standards of academic progress, degree requirements, and the transfer requirements of upper-division colleges; (2) the insufficient number of advisors to maintain contact with all

(cont. next page)

DIALOG File 1: ERIC - 66-85/DEC

students; and (3) the desirability of freeing counselors from the clerical task of periodically reevaluating student records. The report then discusses the informational aids supplied by AGIS: a realignment of student transcripts according to degree and graduation requirements; an automatic graduation certification; a list of lower-division courses recommended for each major by 13 Florida universities; a list of required courses for each associate degree; and a sequencing of recommended courses based on the student's background, goals, and the particular college to which he/she wishes to transfer. Finally the report describes the hardware used by AGIS, its on-line and batch capabilities, the three phases involved in implementing the system, and the potential of AGIS as a graduation application file. Sample AGIS reports are appended. (JP)

Descriptors: *Academic Achievement; Academic Standards; Articulation (Education); Associate Degrees; Community Colleges; *Computer Oriented Programs; Computers; Degree Requirements; *Educational Counseling; Faculty Advisers; Graduation Requirements; *Information Systems; Student Records; Transfer Policy; Two Year Colleges

Identifiers: *Advisement and Graduation Information System FL

ED195891 CG014843

A Review of Issues in Computer-Assisted Counseling and a New Approach to Its Applications in College Selection.

Colburn, Kenneth A.

Dec 1980 267p.; Master's Thesis, University of New Hampshire

EDRS Price - MF01/PC11 Plus Postage.

Language: English

Document Type: THESIS (042); REVIEW LITERATURE (070); PROJECT DESCRIPTION (141)

Geographic Source: U.S.; New Hampshire

Journal Announcement: RIEMAY81

Issues and approaches in computer-assisted counseling are presented in this thesis. Reasons are considered for the ineffectiveness of school guidance counselors in helping students make college selections, and a reconceptualization of counseling as a technology of helping is suggested. The uses of computers in counseling are examined along with resulting improvements and effects on guidance programs. Reasons for schools' reluctance to use computer-assisted guidance information systems are considered, including counselor familiarity and orientation, threat to counselor job security and control over work, computer accuracy and impersonality, threat to privacy, and cost. A history of computer-assisted guidance information systems is presented, with descriptions and analyses of current and future systems. CHOOSE, a new computer-assisted guidance information system for college selection is described. The future of school guidance is considered and resulting implications for counselor education and research are noted. A bibliography is followed by an appendix of CHOOSE user manuals and source code listings. (Author)

Descriptors: *College Choice; *Computer Oriented Programs; *Counseling Effectiveness; *Counseling Techniques; Decision Making; Information Services; Program Descriptions; *School Counseling; School Counselors; School Guidance; Secondary Education; *Student Needs

Identifiers: *New Hampshire

ED187855 CE024709

CIS Implementation Handbook.

Steward, Naomi; Wiles, Jeff

Oregon Univ., Eugene. Career Information System.

Sep 1978 295p.; For related documents see CE 024 707-708 and ED 151 514.

Available from: Oregon Career Information System, 247 Hendricks Hall, University of Oregon, Eugene, OR 97403 ($11.00)

EDRS Price - MF01/PC12 Plus Postage.

Language: English

Document Type: NON-CLASSROOM MATERIAL (055); BIBLIOGRAPHY (131); PROJECT DESCRIPTION (141)

Geographic Source: U.S.; Oregon

Journal Announcement: RIENOV80

Target Audience: Practitioners

This handbook for school and agency staff presents information on implementing a Career Information System (CIS). Section 1 describes the content, format, and use of CIS information files. Each type of file is discussed individually and sample printouts are included. Section 2 provides materials on QUEST, the twenty-one question process by which the user constructs an individual profile by expressing work/job preferences that are matched to an individualized list of occupations. Section 3 concerns these topics regarding site coordination: standards for CIS use, publicizing CIS, involving faculty, CIS and the guidance process, utilizing paraprofessionals and student aides, career resource centers, CIS statistical package, and troubleshooting. Additional resources provided in section 4 include a glossary and resource lists compiled by Seattle Public Schools, including student reference materials, reference books for students, professional reference, and kits and sets. The final section, amounting to over one-half of the manual, consists of learning activities developed by users or site coordinators for implementing CIS in counseling centers and classrooms. Activities are grouped into career guidance and the subject matter areas of language arts, social studies, science, mathematics, physical education, art, personal finance, business, industrial arts, health, and food services. (YLB)

Descriptors: Career Counseling; *Career Education; *Career Exploration; *Career Guidance; *Computer Oriented Programs; Cooperative Programs; Coordination; Educational Technology; Guidance Centers; *Information Services; *Information Systems Learning Activities; Occupational Information; Postsecondary Education; Program Descriptions; Program Implementation; Resource Materials; Secondary Education; Vocational Interests

Identifiers: Career Information System; Oregon; QUEST

(cont. next page)

DIALOG File 1: ERIC - 66-85/DEC

Process
ED187851 CE024626
Computer-Assisted Guidance: Concepts and Practices.
Katz, Martin R.; Shatkin, Laurence
Educational Testing Service, Princeton, N.J.
Mar 1980 90p.
Sponsoring Agency: National Inst. of Education (DHEW), Washington, D.C.
Contract No.: 400-79-0020
Report No.: RR-80-1
EDRS Price - MF01/PC04 Plus Postage.
Language: English
Document Type: RESEARCH REPORT (143); EVALUATIVE REPORT (142)
Geographic Source: U.S.; New Jersey
Journal Announcement: RIENOV80
This report reviews and analyzes the development and status of computer-assisted-guidance (CAG) systems. In terms of eight major topics which are introduced in a discussion of guidance and the computer, the report discusses the capabilities of computers in reference to other resources for guidance and describes and differentiates various CAG systems. The eight focuses with their minor headings are scope (information and guidance, data processing, and populations and settings), content (appraisal, information, decision-making, and planning), structure (direct access to information, structured search for occupations, cross-walks, and recapitulation for decision-making), style (interactivity, hardware, system design, and script-writing), procedures (what to include, sources of data, interpretation of data, and updating information), costs (itemization of components and typical costs per terminal hour), effects, and rationales for guidance and models of career decision-making (Parson's true reasoning, trait-matching for success or membership, and freedom, understanding, competence, and satisfaction). A list of references and glossary of acronyms are appended. (YLB)
Descriptors: *Career Education; *Career Guidance; Career Planning; *Computer Oriented Programs; Data Processing; Decision Making; *Educational Technology; Guidance Programs; *Individualized Programs; Information Services; Information Systems; Occupational Information; Program Costs

ED180132 EA012338
A Comparative Analysis of CHOICES and S.G.I.S.: Selected Aspects of On-Line and Batch Delivery Systems for Computer-Assisted Guidance Services.
Cassie, J. R. Bruce; And Others
Ontario Dept. of Education, Toronto.
1979 156p.
Available from: Ontario Government Bookstore, 880 Bay Street, Toronto, Ontario, Canada M7A 1L2 ($3.00)
EDRS Price - MF01/PC07 Plus Postage.
Language: English
Document Type: RESEARCH REPORT (143)
Geographic Source: Canada; Ontario
Journal Announcement: RIEMAY80
Government: Foreign
This study evaluated the effectiveness of two Canadian computer-assisted career guidance services: the Computerized Heuristic Occupational and Career Exploration System (CHOICES) and the Student Guidance Information Service (S.G.I.S.). For three months, students were given access to both CHOICES and S.G.I.S. Students completed a questionnaire and a sample was also observed using both systems. The study reached 10 major conclusions: (1) Both systems contribute to student career maturity. (2) Neither system has a sound strategy for effective student use. (3) Many students require counselor assistance when using CHOICES. (4) There are important sex and grade differences in the use of both systems. (5) The introduction of computer-assisted guidance services demands a reappraisal of counselor roles. (6) The difference in cost between a batch and an on-line system cannot be analyzed without consideration of additional variables, including existing computer systems. (7) The use of both systems can require high levels of reading skill. (8) A prerequisite for effective use of both systems is student skill in decision-making. (9) Most students would prefer to have access to both systems rather than choose between them. (10) Career guidance specialists prefer the descriptions of careers available from S.G.I.S. but note a wide range of errors, omissions, and irrelevancies in both systems' printouts. (Author/JM)
Descriptors: *Career Counseling; *Career Guidance; Comparative Analysis; *Computer Oriented Programs; Counselor Role; Counselors; Foreign Countries; High Schools; Program Evaluation; Questionnaires; Student Attitudes
Identifiers: Canada; *Computerized Heuristic Occupational Information; *Student Guidance Information Service

ED179823 CE023714
Occupational Information Systems and Their Use in Rehabilitation. Revised.
Kruger, Reuven
Woodrow Wilson Rehabilitation Center, Fisherville, Va.
Jan 1980 20p.; Prepared at the Research Utilization Lab.
Sponsoring Agency: Rehabilitation Services Administration (DHEW), Washington, D.C.
Grant No.: 22-P-59041
EDRS Price - MF01/PC01 Plus Postage.
Language: English
Document Type: REVIEW LITERATURE (070); POSITION PAPER (120)
Geographic Source: U.S.; Virginia
Journal Announcement: RIEMAY80
As our industrial-based economy changes into an information-based economy, information activities will continue to permeate rehabilitation. New technology in this area includes computerized occupational information systems used to aid vocational planning. Such systems include the federal government's Job Service Matching System, the Michigan Occupational Information System, and the federally mandated
(cont. next page)

DIALOG File 1: ERIC - 66-85/DEC

National Occupational Information Coordinating Committee together with its state-level committees. Degree of development and emphases vary from state to state, e.g., some systems permit users to "select out" jobs with prohibitive physical demands. Canada has a highly developed system, and one private one (the Guidance Information System) actually provides for both "aptitudes" and "physical demands" sets of descriptors. Two other systems have been developed specifically with rehabilitation in mind--the ESI-Hester and VOCOMP (Vocational Computer-Assisted Matching Program)--in which the counselor's key input derives from specially administered tests. Overall positive impact of such systems is acknowledged--they amplify productivity. However, they are but one element in the total environment in which computer-assisted job matching may seem like socially undesirable job tracking that fails to suggest how jobs may be restructured. More useful is to view the workplace as "person-oriented," where all workers have special needs of some sort. (CP)

Descriptors: Career Choice; Career Guidance; *Computer Oriented Programs; Counselors; Information Needs; Information Science; *Information Systems; Job Placement; National Programs; *Occupational Information; *Physical Disabilities; *Rehabilitation; *Rehabilitation Counseling

Identifiers: ESI Hester System; Guidance Information System Job Service Matching System; Michigan Occupational Information System; National Occupational Information Coordinating Com; Vocational Computer Assisted Matching Program

ED179764 CE023472

Computerized Career Information and Guidance Systems. Information Series No. 178.

Clyde, John S.

ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, Ohio.; Ohio State Univ., Columbus. National Center for Research in Vocational Education.

1979 71p.

Sponsoring Agency: National Inst. of Education (DHEW), Washington, D.C.

Contract No.: 400-76-0122

Available from: National Center Publications, National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210 ($4.50)

EDRS Price - MF01/PC03 Plus Postage.

Language: English

Document Type: REVIEW LITERATURE (070); SERIAL (022)

Geographic Source: U.S.; Ohio

Journal Announcement: RIEMAY80

This review of computerized career information and guidance systems begins with a discussion of the increase in computer systems in daily life. Part 2 examines the emergence of a national career information system program. The development of computerized systems that assist in career decision making is described in part 3. Part 4 provides descriptive information on leading computerized systems, comparing such elements as effectiveness, user populations, marketing services, and others. Part 5 reviews the literature on system research and evaluation for the following populations: junior/senior high school students, postsecondary students, and non-school adults. The review also contains charts illustrating the various elements of the different systems. Appended materials include proposed standards and self-evaluation guides for system assessment and a list of systems publications. (CT)

Descriptors: Adults; Career Development; Career Opportunities; *Career Planning; *Computers; *Decision Making High Schools; *Information Systems; Junior High School Students; Postsecondary Education; Program Development; *School Counseling; *Systems Analysis

Identifiers: Information Analysis Products

ED178743 CE023090

Computer Guidance and Other Selected Educational Practices in Secondary, Postsecondary, and Correctional Institutions in New York State.

Heller, Barbara R.; And Others

City Univ. of New York, N.Y. Graduate School and Univ. Center.

Aug 1979 66p.

Sponsoring Agency: New York State Education Dept. Albany, Grants Administration Unit.

Report No.: CASE-08-79

EDRS Price - MF01/PC03 Plus Postage.

Language: English

Document Type: TEST, QUESTIONNAIRE (160); RESEARCH REPORT (143)

Geographic Source: U.S.; New York

Journal Announcement: RIEAPR80

During the 1978-79 school year, a survey was conducted of several New York State school districts, fifty-seven public and private two-year colleges, eight Educational Opportunity Centers, and thirty-six correctional institutions within the state. The secondary and postsecondary school level surveys focused on past use of and interest in computer-based guidance systems. Survey results indicated that experiences with computerized college and career information guidance systems in high schools and in two-year colleges in New York State are remarkably similar. Half of the respondents were using an automated system during 1978-79, and most of these had been involved for more than a year. The Guidance Information System (GIS) was the system most frequently used in both high schools and colleges. Based on the results of this survey, suggestions were made to install a statewide computer guidance system. The correctional institution survey focused on the needs of the incarcerated population for educational services and how these needs were being met. Twelve of the fourteen responding correctional institutions had male inmate populations and two had female. Data was collected on educational facilities, classroom space, instructional resources, and inmate participation in educational activities. The results indicated that a large proportion of the inmates are involved in

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Appendix D

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Appendix E

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Position_____

LEVEL: ___Elementary ___Higher Ed ___Secondary ___Adult

I have access to a computer terminal and would like to join CAPS:HITECH. Please send me my starter kit which contains:

- ID and password
- Quick Start
- User's Guide
- Easel Binder

My $50 registration fee will be paid by the method indicated below. I understand that $30 of this fee is a one time administrative and materials charge; the other $20 is placed in my account for computer connect charges and, when applicable, telecommunications charges.

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